ATHLETIC JOURNAL

Vol. XXV November, 1944

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E. R. Godfrey

It's Fundamental Time

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Developing a Basketball Offense

R. Christensen

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CONTENTS

for November, 1944

PAGE

7 Team Defense ..... E. R. Godfrey

11 Make Your Defense Simple ..... J. E. Gargan

12 Developing a Basketball Offense ..... R. Christensen

16 Its Fundamental Time! ..... Everett S. Dean

18 Editorials

20 A Question and Answer Period ..... Clifford Wells

22 Physical Fitness Tests on a Secondary School Level .... W. R. Bunn

26 Twenty-Five Years of Hoosier Hysteria ..... Mark Wakefield

32 How to Combat a Pressing Defense ..... John A. Krafft

34 Athletics in the Scheme of Education ..... Howard G. Mundt

42 Cross-Country Running in Ulster ..... Robert Baker

46 The Trainers Section

46 Review of Recent Literature Pertaining to Conditioning and Training ..... W. W. Tuttle

48 A Basketball Game Somewhere in France ..... Joseph Hartley

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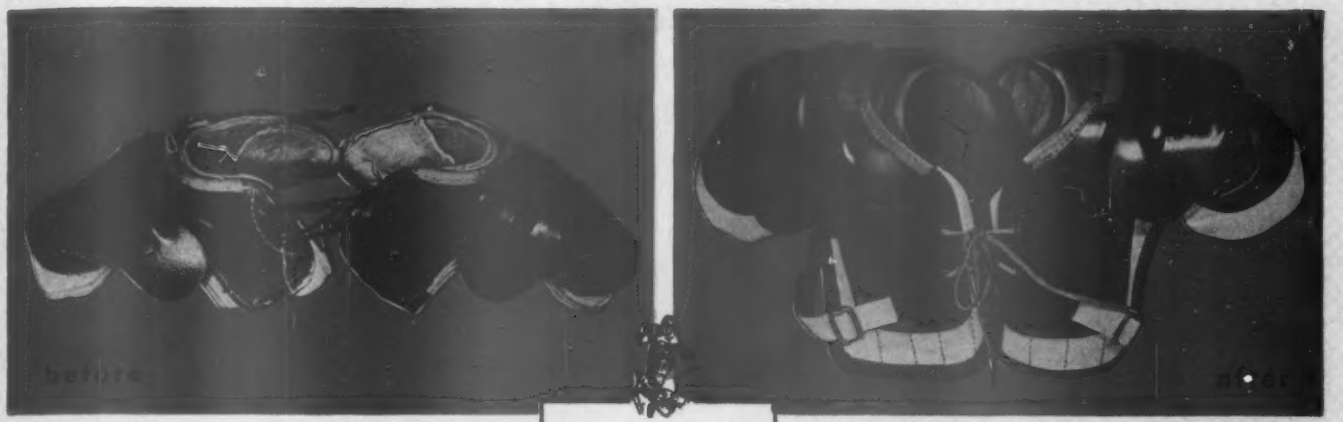

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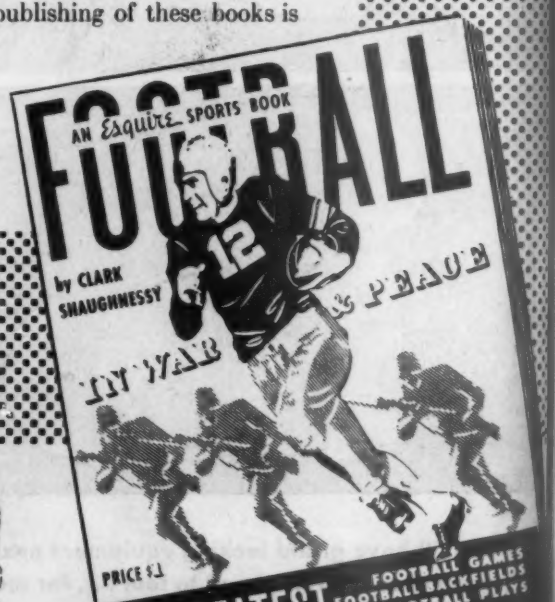

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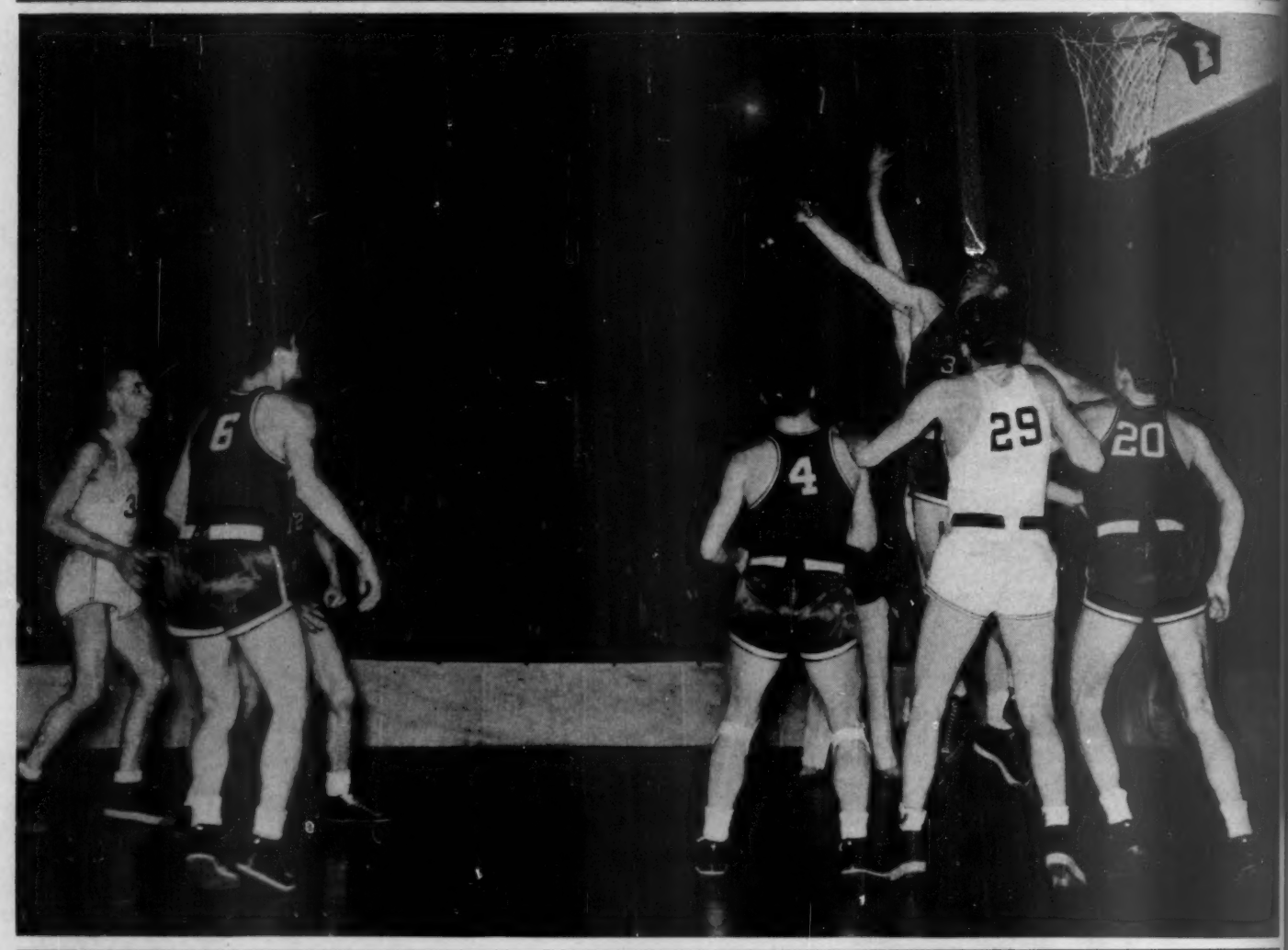

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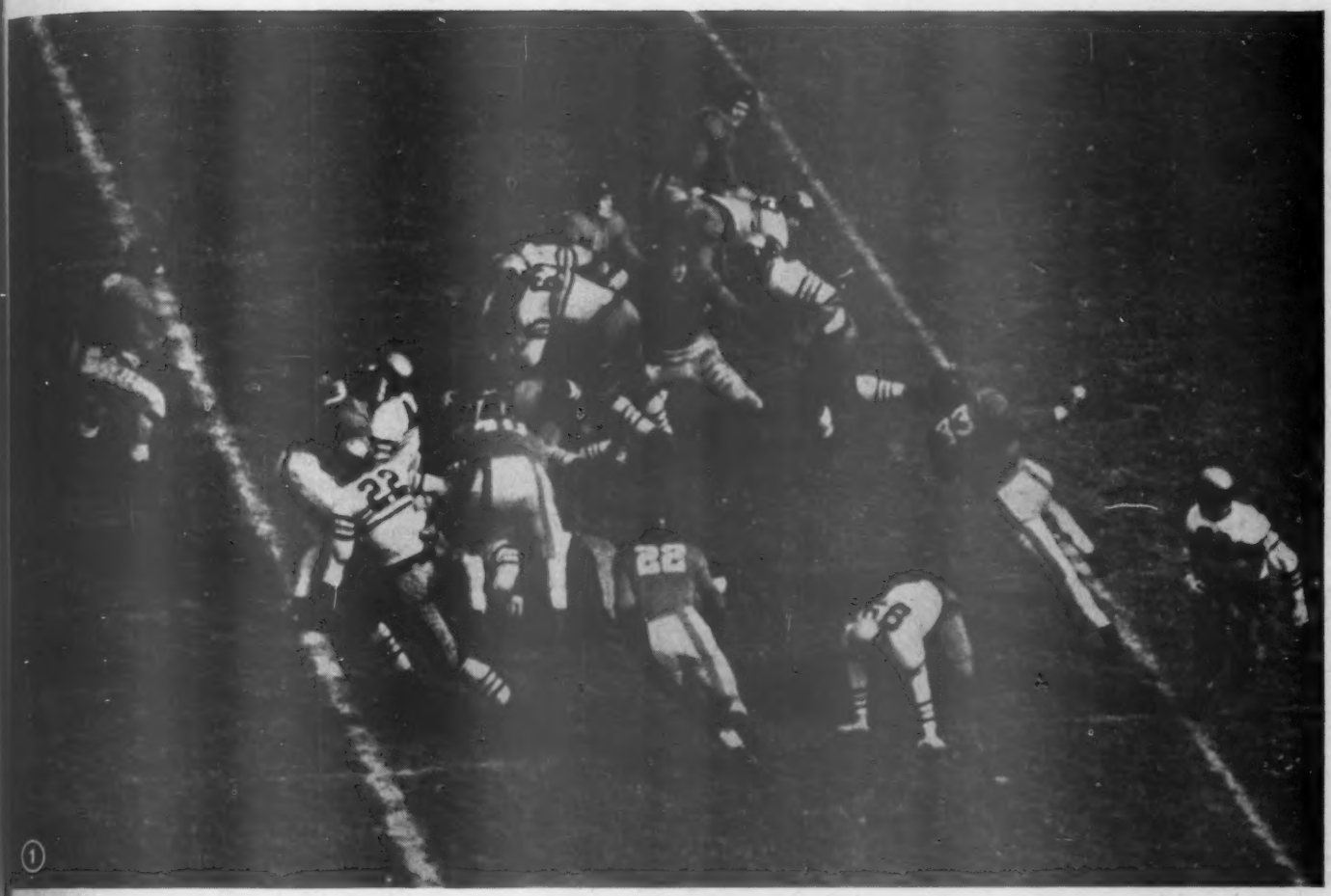


Team Defense

By E. R. Godfrey
Assistant Football Coach, Ohio State University

THE first requirement in the development of a successful defense is to perfect the individual play of the linemen. This alone, however, is not enough, for the strength of any defense depends on the defense as a whole, on the co-ordinated play of the line, line-backers, secondary, and safety man. Individual players, also, must be held responsible for certain territory first, before entering into general team defense.

The objective of any defensive line charge is to surround the offensive formation with a cup defense (Diagram 1), so that no play can develop (See also Illustration 1). Here the team in dark uniforms is surrounding the offensive team with a complete cup. This is a picture taken in a Western Conference game.

After the individual defensive linemen have charged to the blocking line (Diagram 2), they must be closer together than before the charge. Diagram 3 shows what is meant by this. Here two defensive men are charging to the blocking line so that they present the small mouth of a funnel. Furthermore, they cannot be opened up if such a relationship is maintained. On the other hand, Diagram 4 shows two men charging to the blocking line in such a way that they are farther apart than before the charge. This presents the offensive blockers with the wide mouth of the funnel at the blocking line, making it easier for the offensive blockers to force an opening at this point.

Deception is used in the development of plays to pull defensive linemen out of position. Therefore, a defensive lineman should charge first and then look, to avoid being drawn out of position by the deception of the play. Likewise, the men in a defensive line should charge in relationship to one another so that, if they continued their charge beyond the blocking line (which would be unsound), they would all meet at some point in the offensive territory. Diagram 5 shows the correct relationship for a defensive line after it has charged to the blocking line. The spacing is closer there than at the start of the charge.

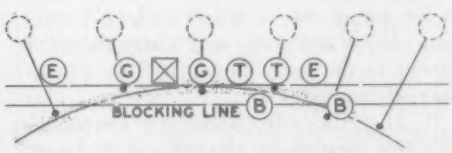


Diagram 1.

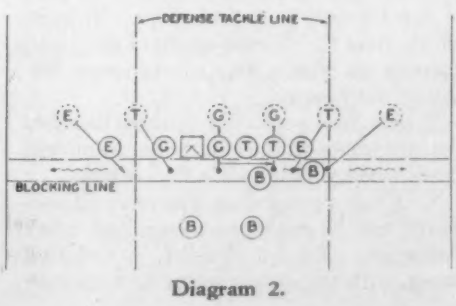


Diagram 2.

A mistake that is often made by a defensive lineman is to charge too deep to make his tackle, rather than sliding along the blocking line. By charging deep, he leaves a gap and loses his effectiveness in conjunction with the other linemen. Diagram 6 illustrates the defensive right guard charging too deep by playing the deception of the play and leaving a natural opening in the line.

Types of Defense

There are various types of team defenses. The perfect defense would be a seven-

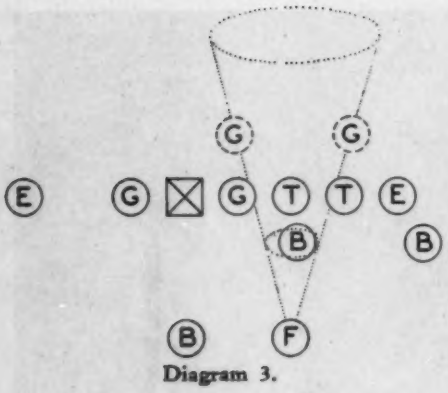


Diagram 3.

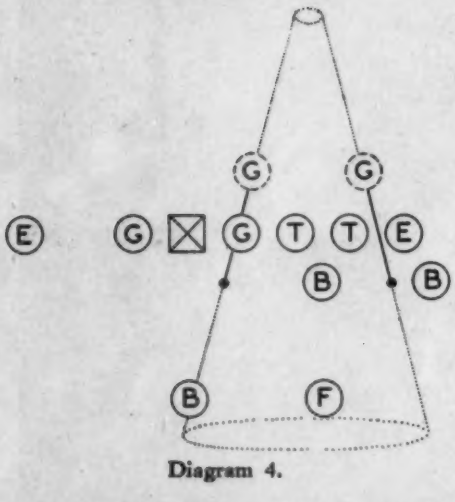


Diagram 4.

man line, three line-backers, two halfbacks, and a safety man, making a total of thirteen men. Since there are only eleven men on a team, various arrangements of players on the line and in the secondary are presented to stop various types of attack. For example, let us say an offensive team is strong through the line and around the ends. Here the best defense would be a seven-man line, two line-backers, and two halfbacks. In a different case, a team is very weak through the line and around the ends, but has an excellent passing attack and punting game. Here the type of defense indicated would be a five-man line, two line-backers, three halfbacks, and a safety man. For further illustration, the possible different defensive line-ups are listed as follows: 7-1-2-1; 7-2-2; 7-1-2-1 overshifted; 6-2-2-1; 6-2-2-1 overshifted; 6-3-2; 6-2-1-2; 5-3-2-1; 5-2-3-1; 5-4-2; 4-3-1-2-1.

Line defenses are played differently. A defensive seven-man line, as a rule, has just one line-backer. This means the defensive linemen must play their own territory more conservatively and make the most of the tackles. A seven-man line hits and slides. It requires players with experience. On the other hand, a five-man line with three line-backers can charge harder and deeper, and be more reckless in their play, the idea being to strip the play of interference with no time to organize. Here it is up to the three line-backers to make the most of the tackles. It is very difficult to coach a seven-man line or a six, since the play is so different.

The Strength of a Seven-Man Line

The seven-man line places a man over each offensive end, making it difficult for them to release. It is more difficult for the offensive men to run against a seven-man line, since the spacing can be a little closer. Furthermore, it is harder to "sweep" a seven-man line. There is, however, one important weakness of the seven-man line that must not be overlooked, its weakness against forward passing. To get extra pass protection men must be dropped from the line of scrimmage, which is a difficult thing to do, if the play has the deception of a sweep or power play into the line before the pass.

Some of the advantages of the seven-man line may be summarized as follows:

1. It is the most difficult for an offensive team to run against.
2. It offers possibilities for many variations.
3. The defensive base is wider, making "sweeps" more difficult.
4. The individual lineman is responsible for less territory and can, therefore, slide more from the defensive charge.

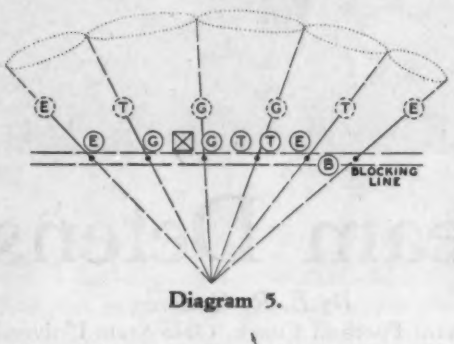


Diagram 5.

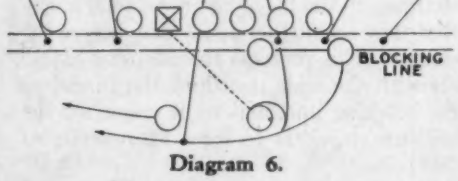


Diagram 6.

5. This formation is very effective deep in the opponents' territory, where a running play is indicated, and where the more deceptive and gambling plays are practically eliminated.

6. It is, also, effective deep in the team's own territory where the punt is no longer a part of the offensive strategy. The safety man, who no longer has responsibility for returning punts, can now be used as part of the forward-pass protection. This, in effect, gives the defense an extra man, and there is no reason why a seven-man line should not be used.

7. The seven-man line can also be effective anywhere on the field when the offense needs small yardage for a first down.

8. From a seven-man line more adjustments can be made than from any other formation: 7-1-2-1, 6-2-2-1, overshifted seven, with the same spacing as a six-man line plus an extra man on the flank, 5-3-2-1, and 5-4-2.

Various Defenses

Diagram 7 shows a 6-2-2-1 defense against a single-wing formation. It is effective against a running attack to either the strong or weak side, and is good against passes and punts. It is an excellent all-around defense.

Diagram 8 shows a 7-1-2-1 defense against a single-wing formation. To get secondary support for pass protection, one or more men must be dropped from the line of scrimmage to get enough pass coverage. This is a distinct weakness of the seven-man line, for linemen find it difficult to drop back from the line of scrimmage for pass protection and also play their territory on the line.

Diagram 9 shows a 7-1-2-1 overshifted defense. It has the spacing of a six-man line from right end to left tackle. The left end can operate to stop "sweeps," or drop back and cover flat passes.

Diagram 10 preesnts a 7-2-2 defense. It is strong against a running attack but weak against three-deep passes since the defense has sacrfiiced the safety.

Principles Involved in Building a Defense

In the building of a defense there are certain principal factors that must be taken into consideration.

1. Regardless of the defense being used, the minimum spacing of one defensive man over every other offensive man must be maintained at all points.

2. Offensive strength must be matched with defensive strength, leaving any offensive weakness to be matched by the weaker part of the defense. Every offensive formation is weak somewhere, depending on the positions of the offensive line and backfield. Defensive strength against the weakness of the offensive may look impressive, but will always leave the weak

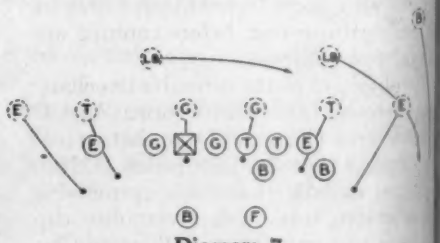


Diagram 7.

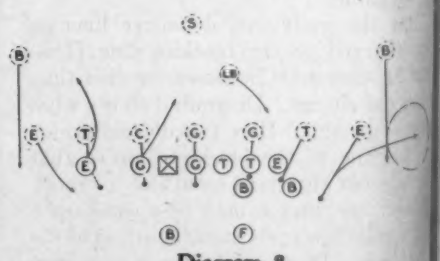


Diagram 8.

part of the defense to meet the strong part of the offense, which is disastrous.

3. Personnel must be considered in connection with the type of defense which can be played best. For example, if the line is inexperienced, it is better to use a smashing type of line play with two or more line-backers.

4. The first thing, on which to plan is the stopping of the opponents' strongest plays. Do they have an outstanding passer or a hard line plunger? These facts must be weighed heavily by a coach in deciding on how the defensive men are to be placed.

The Six-Man Line

A six-man line has many variations, the results derived from each being about the same. First, it is a good defense because of its simplicity. Here each man has a simple, but definite, assignment to carry out, with perhaps a chance to be aggressive. This defense may be used to a good advantage with an inexperienced line. The linemen can employ hard, aggressive play, supporting to their inside. They are not directly responsible for making tackles, this being left to the line-backers.

With all six men charging hard, excellent rushing of passers is assured. The theory back of this type of line play is that it takes excellent offensive blocking to hold a hard-charging defensive lineman. When the six men drive doggedly, one is almost certain to reach the passer.

A six-man line furnishes two line-backers who can shift about, to strengthen the first line of defense, depending on the position that they are playing. The line can be overshifted and the backfield undershifted or vice versa.

In the building of a six-man line, the spacing presented in Diagram 11 must always be used. The defensive base must be built on the theory, illustrated in Diagrams 12 and 13. Likewise to be successful, a six-man line must have six hard-charging men and two excellent line-backers.

A six-man line is effective against power plays, which must take a hard charge to stop them. It is also a good defense when a great deal of deception is used by the offense. Often a hard-charging line does not give the offensive team enough time for deceptive plays to develop, for deception is only effective when it is possible to pull linemen out of position.

A six-man line may be used successfully against a team that "sweeps," if the line-backers support to the outside of the end, a regular six-man line with line backers overshifted (Diagram 7). This type of defense demands a hard, fast-charging line with good line-backers. The objective is to surround at once the offensive formation with a pattern like that shown in Diagram 7. Regardless of the offensive play used or of the position of the team on the field, it is necessary for this cupping defense to stop the play (Diagram 1).

Furthermore, the defensive line charges to the blocking line (Diagram 2). The line's first responsibility is to strip the play of its interference and destroy its timing. There should be at least five men always rushing a passer.

Diagram 14 illustrates an overshifted 6-2-2-1 defense with undershifted line-backers. Here the linemen have the same responsibilities as in a regular 6-2-2-1. The regular and the overshifted 6-2-2-1, as shown in Diagrams 7 and 14, make excellent shifting defenses with the line-backers supporting differently, depending on which defense is being used. These two line-ups, properly called, will do much to confuse the offensive team. They are fundamentally sound and flexible enough to meet various attacks.

The defense, shown in Diagram 15, is known as a "cockeyed 6-3-2." It is excellent against running plays. In this arrangement, we have six linemen and what amounts to three line-backers who can also support the ends to the outside. It is effective against a running game if the line play is hard-charging and aggressive. It is also excellent against deception and trap plays, since the linemen are playing over offensive men who do not pull, and there are three line-backers supporting. It affords good rushing against passes, with a tackle over each offensive end, making it difficult for them to get away for pass-receiving.

The Five-Man Line

The five-man line when used exclusively is not fundamentally strong. Used intelligently in conjunction with other defenses, it has many advantages.

In the five-man line, the ratio of one defensive man to every alternate offensive man must still be maintained. Here, too, the assignments of the individuals do not vary much from those for a six-man line except that the five-man line charges more recklessly and deeper into the oppo-

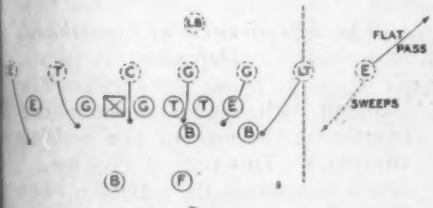


Diagram 9.

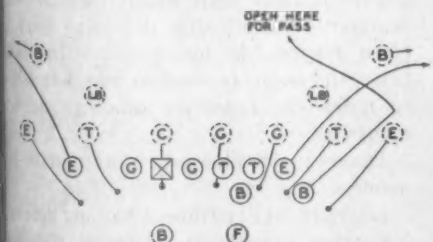


Diagram 10.

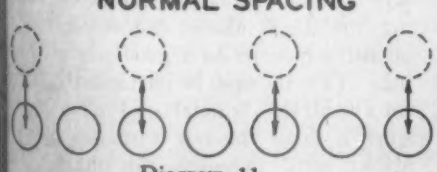
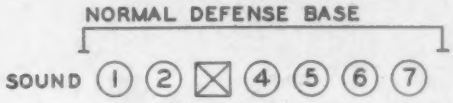


Diagram 11.



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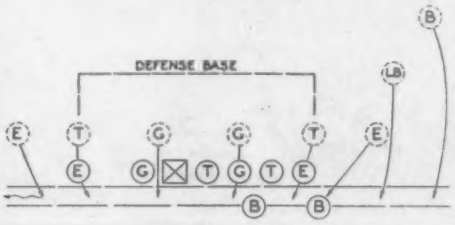


Diagram 13.

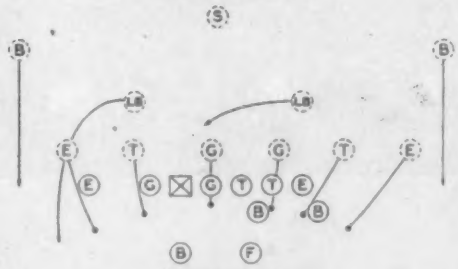


Diagram 14.

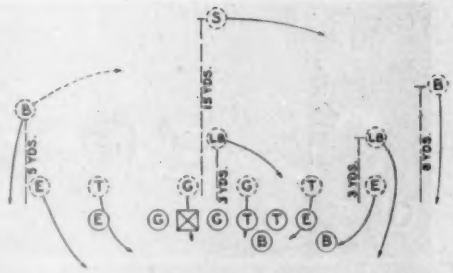


Diagram 15.

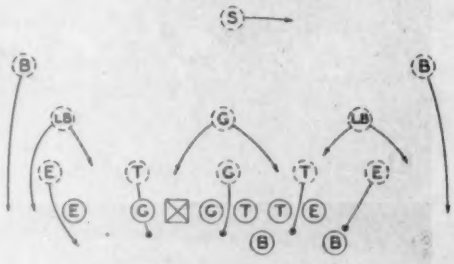


Diagram 16.

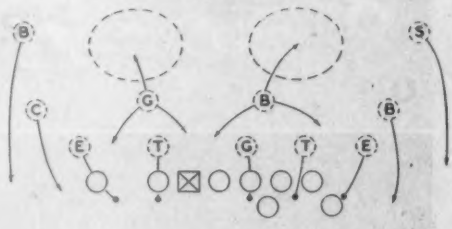
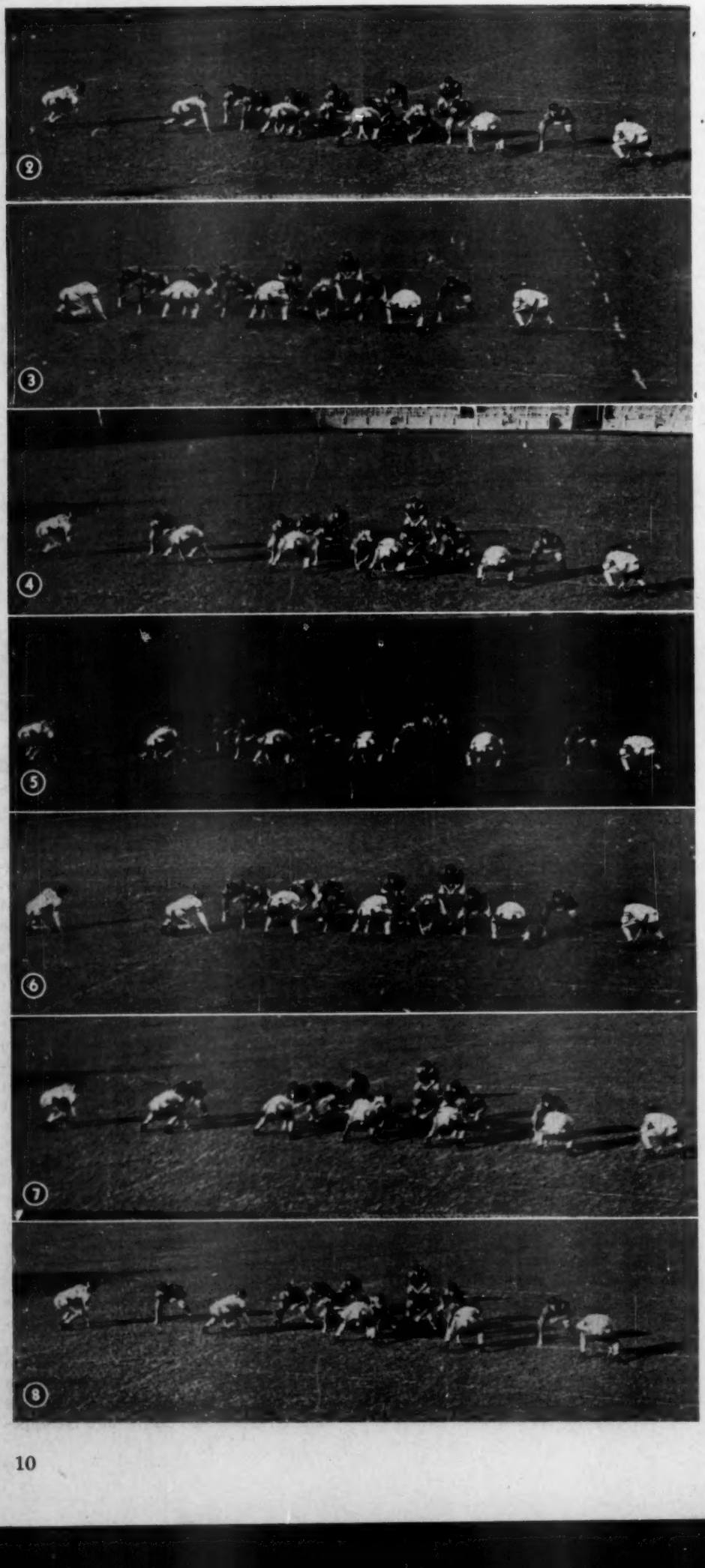


Diagram 17.



nents' territory, for the objective of the five linemen is to disintegrate the play, to keep it from developing.

Personnel for a five-man line must be exceptionally aggressive. This defense requires a hard-charging line. These five men dare not be slow or weak in their defensive play. All five must be strong and powerful. If one defensive lineman can be blocked by one offensive man, then the offense can release enough linemen for downfield blocking against the three line-backers.

A 5-3-2-1 defense is especially good against the short-passing game. It is also good against trap plays, since there are three line-backers to support any linemen who are trapped.

The five-man spacing is also confusing to the offensive blockers. A five-man line, however, grows weaker as the offensive linemen make correct blocking assignments. Therefore, shifting from a five-man to a six-man line is much more effective.

A five-man line is weak against "sweeps," especially from the T-formation.

Diagram 16 shows a 5-3-2-1 defense against a single-wing formation. It may be used rather successfully if the offensive line is not split too much. A five-man line is much more effective against a balanced line. The ratio of a defensive man over every offensive man must prevail as in other formations. In this line-up, the right and left line-backers are responsible for plays developing inside and for wide sweeps.

A 5-4-2 defense, as shown in Diagram 17, may be used to good advantage on certain downs, depending on the position of the team on the field. This defense might prove very effective on a wet day when long passes dare not be thrown.

The Effectiveness of Unorthodox Defenses

Teams with weaker personnel employ unorthodox defenses to gain a defensive advantage. This type of play has a tendency to confuse the offensive blockers. The offensive line is asked to meet defensive charges with which they are unfamiliar. Unorthodox defensive play is often responsible for upsets. In those cases, the team, favored to win, has failed to make the necessary offensive adjustments.

Diagram 18 illustrates an unorthodox defense.

Diagram 19 illustrates a looping defense. No other unorthodox defense, possibly, has caused more upsets. Here the defensive men slide along the line before charging, making it almost impossible for the offensive men to do a good job of blocking. This defense is particularly strong for a team that is outclassed in manpower, since it gives the boy with less physical ability some defensive advantage. The

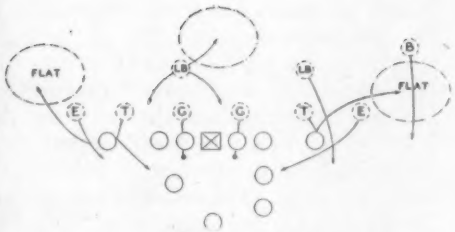


Diagram 18.

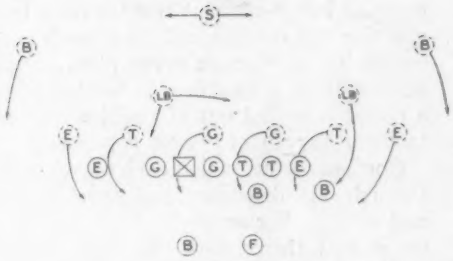


Diagram 19.

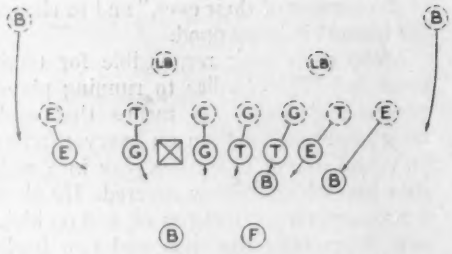


Diagram 20.

weakness of this type of defense, however, is that, if one of the linemen fails to loop, he leaves a natural opening.

Goal-Line Defense

For making a goal-line stand the defense changes. In fact, when the offense has driven deep into the opponents' territory and the defensive team no longer needs a safety man to return punts, an immediate change to a 7-2-2 or a 6-3-2 defense is indicated.

The nearer the offense comes to the goal line, the less territory remains in which the offensive men can complete passes. Therefore, a seven- or eight-man line may be employed by the defense to establish the ratio of one defensive man to every offensive man (Diagram 20). When the defense maintains this ratio, it is almost impossible for the offensive team to gain ground.

Not enough credit can be given to shifting defenses for the many upsets each year. The offensive men quite often fail to adjust their blocking assignments to the defense presented and as a result the offense "bogs" down.

Many a coach has become outstanding because of his ability to set defenses that the opposing offensive teams could not match. There are many more ideas on defense than those suggested in this article. In fact, the various defensive ideas are almost too numerous to catalogue.

In Illustrations 2-8 are pictured various defenses against a single-wing formation (with its variations) and a punt formation:

Illustration 2 shows an orthodox six-man line against a single-wing formation.

Illustration 3 shows an orthodox five-man line against a single-wing formation.

Illustration 4 shows an orthodox six-man line against a single-wing formation spreading its offensive face.

Illustration 5 shows an orthodox six man line against a single-wing formation.

Illustration 6 shows an orthodox seven-man line against a punt formation.

Illustration 7 shows an orthodox five-man line against a punt formation.

Illustration 8 shows an orthodox six-man line against a punt formation.

The reader will note that no mention has been made of the defense, necessary to meet the T formation. This is a subject to be discussed in detail at a later time.

Make Your Defense Simple

By J. E. Gargan
Athletic Director, Kingswood School

IN the two preceding issues I explained three of the fundamental requirements for developing a football team in the secondary school. The suggestions, that I have made, have been taken from daily notes which I have kept over a period of fifteen years. The fourth requirement is the use of a simple defense which I recommend for the average schoolboy.

Use a Simple Defense

Along with a simple offense, my notes call for a simple defense. They say: Coach, your common sense and experience must remind you that emphasis on good tackling, a vigorous and sustained line charge, and a simple pattern of play in which linemen and backs protect definite territory is the best defense you can teach. Overcoaching by giving detailed instructions and making elaborate plans to thwart offensive maneuvers will confuse your boys and cause them to go to pieces under pressure. Stress fundamentals with position play, and your boys will know what to do against any offense.

Stress good tackling: Tackling is not easy to learn because it requires emotional, as well as physical, control. Teach your boys the mechanics of tackling on the dummy and against stationary and slow-moving targets. Build up their desire to be good tacklers by emphasizing its importance and encouraging improvement. In practice have the poorer tacklers work, at first, with the less elusive ball-carriers, and the better tacklers with the best backs. Do not neglect to give all of the backs plenty of practice, with other backs and ends acting as ball-carriers. Give them all plenty of practice in scrimmages and practice games. The normal boy will overcome an aversion to tackling if his courage and confidence are built up by plenty of practice. This is the basis of your defense.

Teach a good line charge: Drill your linemen in a good, low stance, and emphasize a low, hard charge. Do not worry about cross-blocks, mousetraps, and other fancy "concoctions." A schoolboy line that is set to charge the moment the opposing center places his hands on the ball and then drives in with a fast, sustained charge will stop an offense that depends upon timed blocks. Practice charging with an offensive charge in which the linemen drive in using head, shoulders, and elbows to get through. After they have learned to charge, teach them to use their hands to ward off opponents and fight their way through. Do not let them get to the fault of emphasizing the use of their hands and neglecting to charge. Insist upon a sustained charge, and drill them in carrying it through instead of lunging.

Make each player responsible for certain territory: Make each lineman responsible for territory outside his position. This makes the end responsible for territory between himself and the side line; the tackle responsible for space between himself and the end; and the guard responsible for territory between his position and the tackle's. If the center is in the line, he is responsible for all territory between himself and the guards. If he plays out of the line, the guards divide the territory.

Emphasize equal spacing between your linemen. Even if you must make them touch hands each time they line up, they must learn this. Play as tight a line as possible. If you have good ends, have them play closer to the middle and allow the other linemen to close in and form a compact line.

Practice shifting frequently until the line can shift quickly as a unit while maintaining equal spacing throughout. Practice charging with the ball until it becomes a habit for your linemen to get set when the opposing center places his hands on the ball. Have them able to see it "out

of the corners of their eyes," and to charge the instant it is snapped.

Make each back responsible for territory also. This applies to running plays, passes, and kicks. It means that each back plays his position on every running play and moves in on the play in a way that keeps his territory covered. He plays a zone defense against passes, and on kicks two backs take the ends and two backs drop back to cover the kick.

Drill backs in pass defense: Practice pass defense regularly. Line your backs up against ends, and have the ends try to cut away from them to receive a pass. This will give your passers and ends practice, but the primary purpose of the drill should be to teach each back to cover the end until the ball is in the air, and then to play the ball. Insist that both end and back make a desperate attempt to reach the ball. Show the back how to "play position" against the end, and give him plenty of practice in timing his play for the ball. This should be part of the practice routine each day that the team is not scrimmaging. Be sure the backs get plenty of practice in pass defense in scrimmages and practice games.

Use a zone defense, with each back covering assigned territory. This is the simplest form of pass defense. Teach them to "back-pedal" and call "pass" whenever a pass is imminent.

Make each player play position: Put each player into the position where he can be most useful on defense, regardless of his offensive assignments. Drill him in covering his position. Show the team how effective the defense will be if each man covers his position on every play. Demonstrate how a weakness is created when a player is pulled out of position or even momentarily fails to cover it properly.

Continually insist that each player carry through his defensive assignments with real effort. For example, your end is to go in and then follow the play around behind the offensive line when it goes on the other side. Drill him in this until he does it on every play, and with enough effort to catch the play from behind, if the ball-carrier is slow. You will find that he is increasingly able to do this and will often be in a position to stop a reverse before it gets started. The same will be true in other defensive positions. By repeatedly following out assignments, players will find that they develop the ability to stop plays that at first seemed out of their range.

This all adds up, Coach, to teaching your boys to tackle by drilling them in it daily and then giving them plenty of opportunity to do so in scrimmage. Teach linemen to be alert, to maintain equal spacing, to shift fast, and to charge low and hard. Shift your players to establish defensive strength; make each player responsible for certain territory, and insist that each one "plays position" on every play.

One final suggestion, say my notes. The most important thing of all is to realize that what you, Coach, can teach is very limited. For example: You set out to teach an inexperienced end three things in the following order: To go in three yards; to use his hands and feet properly in fighting off the blockers; to vary his charge and drive straight in when the play calls for it. It would appear that to teach him the first step would be a simple matter. The action is not complicated—he has no opponents to bother with—all that he needs to do is to take three steps across the line when the ball is snapped.

You find, however, that showing him and telling him will not suffice. You must make him do it over and over again in practice, and in the first scrimmage you find that he frequently fails. You criticize him for the lapses and explain how important it is for him to do this simple "stunt" before he learns anything more complicated. In subsequent scrimmages and games, he continues to fail at times to go across the line at all, or he goes in too far, or not far enough, or starts in and then gets pulled out of position, or goes in too slowly. You stand in front and urge him; you stand behind and encourage him; you draw lines; you push him across; you pull him across; you talk quietly and talk emphatically, and eventually after explanations and criticism and drilling you teach the average boy this simple maneuver. *But it has taken several weeks for him to learn it.* This is no exaggeration. It is a simple fact that happens over and over again.

(Continued on page 28)

Developing a Basketball Offense

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MOST of our modern styles of team offense in basketball incorporate the same general principles, namely, they seek to set up opportune scoring situations which the individual skill and initiative of the players can exploit. We call this "optional basketball." Thus an offensive pattern is set up, and an indefinite number of play options are explained and practiced. There is no set series of plays nor calling of signals. The players soon understand the situations set up in the system, and through their own initiative attempt the various optional plays. If one option fails to break a man free, other options are set up, one of which will usually work.

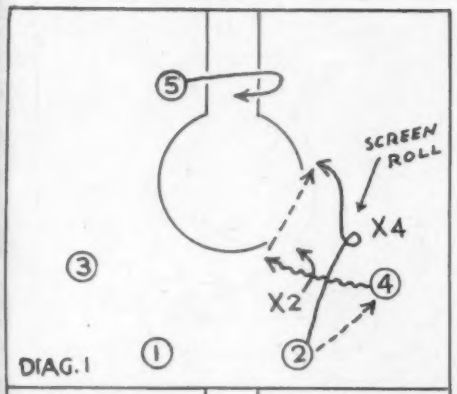
In developing the attack, we use our various options as drills for the perfection of fundamentals. In this manner, the offensive techniques of stopping, cutting, faking, dribbling, and shooting are practiced, while at the same time the players learn the play options involved in their team offense. Gradually the attack is built up. First the simple 2- and 3-man options are worked out. Then the 4- and 5-man options are worked in. Finally the offense takes shape. The options follow one another. For instance, a guard may start a simple two-man play by bouncing a pass into a forward, and cutting by for a return pass and a shot. If, however, he fails to get clear for a pass, the forward passes in to the pivot man. Thus, a third player enters in. The pivot man now may pivot and shoot, or pass back to the forward who cuts across the post. A fourth player enters in as the opposite forward reverses into the hole. If all options fail, the ball may go back out, and the cycle starts again or another is set up. The system is based primarily upon a series of screens, screen-rolls and post plays. While thus set up essentially to attack a man-for-man or shifting man-for-man defense, its basic system of circulation may be applied equally well against a zone.

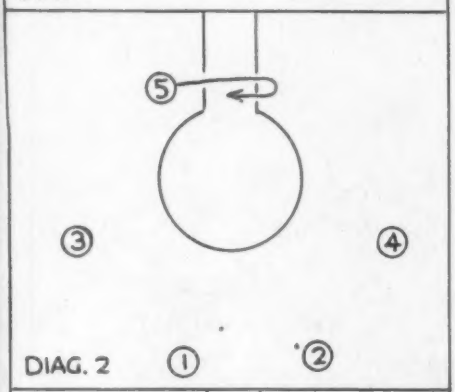
In the sequence of plays, frequent reference will be made to screen-rolls or cut-aways. A word of explanation may be useful on this type of play. The screen-roll is one of basketball's most effective plays against a shifting man-for-man defense. It is a check play when defensive guards shift on a screen. Diagram 1 illustrates the use of the screen-roll.

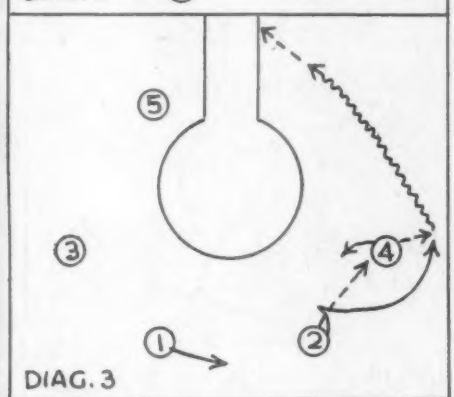
In Diagram 1, O1 passes to O4 and screens for X4. At this point, X2 may shift on to O4 in order to prevent O4 from dribbling clear. It will be seen that O2 now has an advantageous position on the other guard X4, and cuts away into the hole for a return pass.

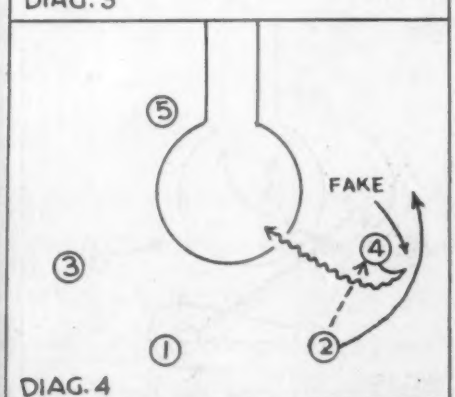
Whenever defensive guards shift to avoid being screened off, this situation is set up. Clever offensive players will find many opportunities for clean breaks into the hole by rolling off their screen with position on the defensive player.

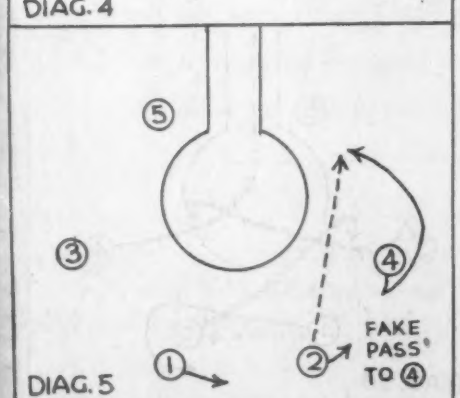
Diagram 2 shows the basic single post set-up from which the options are run.











The plays are set as guards O1 and O2 pass back and forth or dribble and screen for each other. O5 slides back and forth across the keyhole to be in the best position for taking a pass or freeing himself for a shot.

This formation is set up in the front court after the initial fast-break or out-of-bounds play has failed to penetrate the defense. From this we are ready now to attempt any of the optional plays.

Diagram 3. Our series of options starts with simple two-man plays (the best scoring plays in basketball). Guard O2 passes in to forward O4. O2 fakes inside to get his guard off balance, then drives around O4, and takes a return pass for a driving lay-up shot. A driving guard may secure a couple of baskets during the game on this simple option. O2 might also stop behind O4, if his guard takes a short cut to cut him off, and take a set shot behind O4's set screen.

Diagram 4. Frequently as O2 drives by O4, their respective guards will shift. This leaves O4 open for a drive into the keyhole for a shot after faking the ball to O2.

Diagram 5 shows one of the most deceptive devices for a forward—the reverse. This opportunity will be set up when O4's guard starts to anticipate the pass from O2. O4 steps forward and O2 fakes a pass. As X4 attempts to intercept the pass, O4 reverses and takes a high pass from O2 for a drive into the hole. This is a check on guard X4.

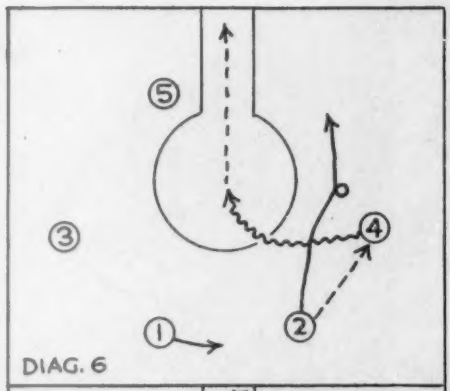
Diagram 6 shows the use of the inside screen. O2 passes in to O4 and drives inside of O4, setting up an inside screen, enabling O4 to cut around into the keyhole for a shot. This screen also enables O4 to clear a pass into the post or to the other forward more easily.

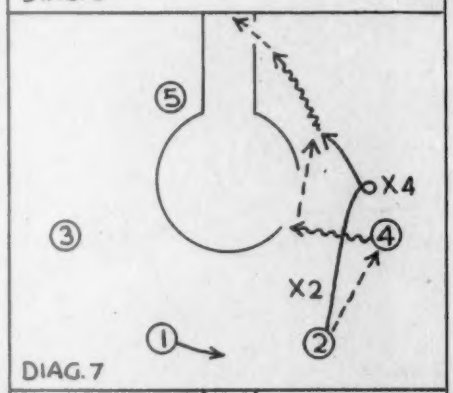
Diagram 7 illustrates a check play for Diagram 6. As O2 screens X4, X2 may shift off on to O4. If these guards shift thus, O2 should roll off his screen (cut-away) and take a return pass from O4.

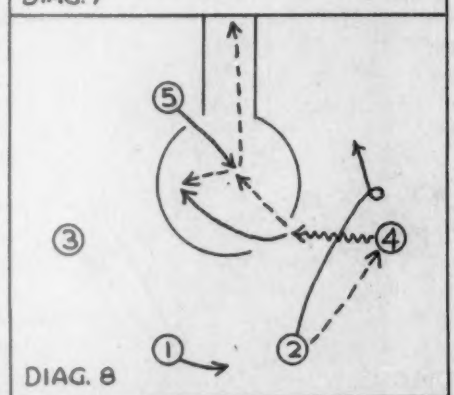
Diagram 8 works the third man into our sets of options. O2 passes in to O4 and screens inside as previously. If none of the previous options are open, O4 may pass in to the pivot man O5. O4 cuts past the post then and may take a return pass for a shot or dribble in to the hole, if clear. The pivot man, O5, may fake to O4 and pivot for a shot.

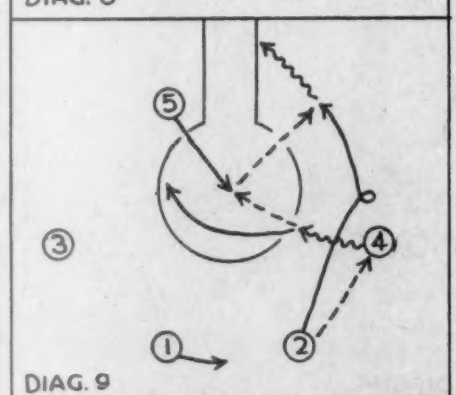
Diagram 9. If the defense guards are shifting, O2 may be able to roll off his screen on X4 to take a pass from pivot man O5. This is another option of the same pattern as shown in Diagram 8.

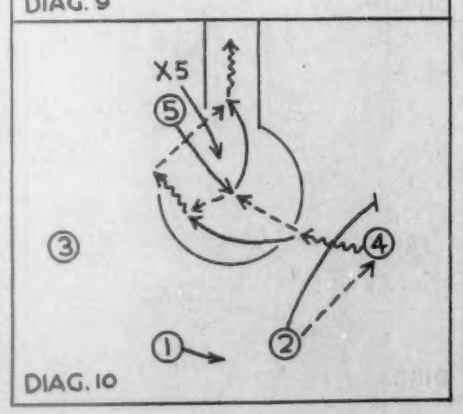
Diagram 10 is a very effective option and reveals the screen-roll again. We call this post play the "split." O2 passes in to O4 and screens inside. O2 clears a pass to pivot man O5, and takes a quick return pass as he cuts past O5. Almost invariably, X5 will instinctively shift to stop O4 cutting past. O4 flips a quick pass back to O5 who has reversed into the hole.

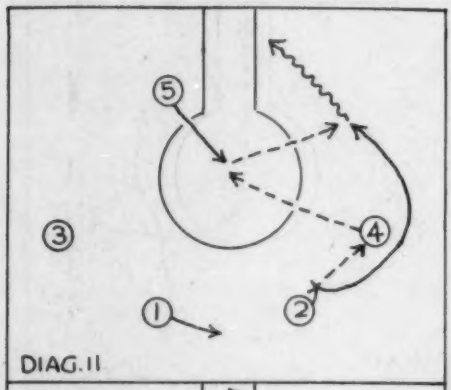




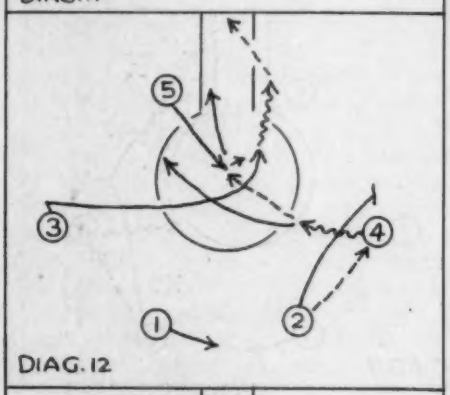








DIAG. 11



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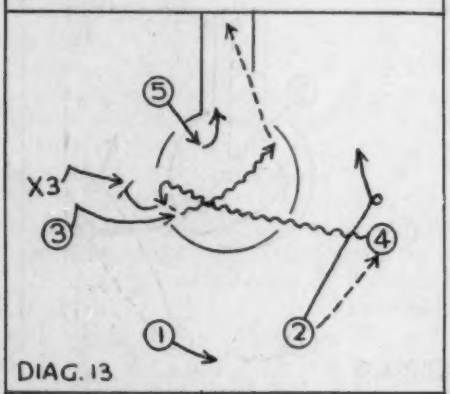

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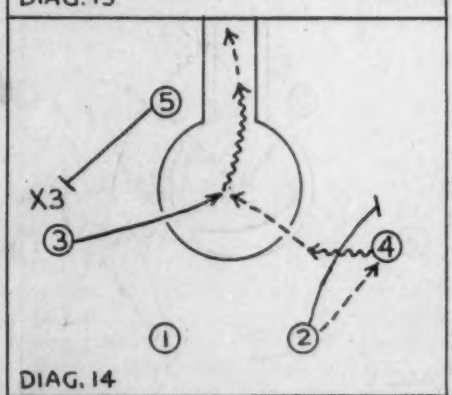

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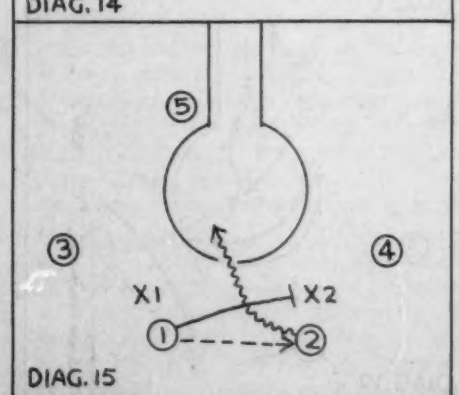


DIAG. 15

In Diagram 11, the guard-around play, O2 passes to O4, fakes inside, and drives around the outside. O4 passes in to the post, who then feeds O2, driving into the hole.

Diagram 12 brings a fourth man into the pattern. O2 passes to O4 and screens inside. O4 clears, passes to O5, and cuts past. If no play is made, O3 cuts past the post for a pass. O3 should fake left before his cut to get position on his guard.

Once again the cutter O3 should be alert for a return flip to the pivot player O5, if X5 shifts off to stop O3. The pivot man should always be ready to reverse into the hole, if his guard shifts off on to the cutter.

Diagram 13. Frequently O4 cannot get a pass into the post after he dribbles clear of O2's screen. In this case, O4 may attempt a dribble across the back of the circle. O3 when seeing this, should fake left and drive around outside of O4. O4 screens off X3 and O3 cuts around. O4 flips a pass to O3 as O3 drives past.

Diagram 14 illustrates a very effective screen play which the pivot man may set up. As O4 takes the pass from O2, O5 moves out and sets up a screen on X3. O3 then breaks across the circle to take the pass from O4.

The options up to this point have all started with the guard passing in to the forward. The following options are set up by guard-to-guard passes.

Diagram 15 illustrates the cross block (screen) by the guards. This is good basketball at any time when defensive men are guarding offensive guards particularly close. O1 passes to O2 and screens X2. If X1 and X2 do not shift, O2 may be able to dribble clear for a scoring play.

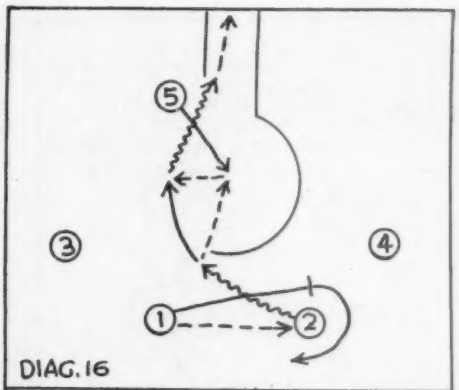
In Diagram 16, a post play, O1 passes to O2 and screens X2. O2 dribbles clear and feeds the pivot man who meets the pass. O2 then cuts past for a return pass and shot.

In Diagram 17, another man enters into the play. O1 passes to O2 and screens. O2 dribbles around the screen toward O3. O2 then flips the ball to O3 and screens X3. O3 drives around the screen for a shot.

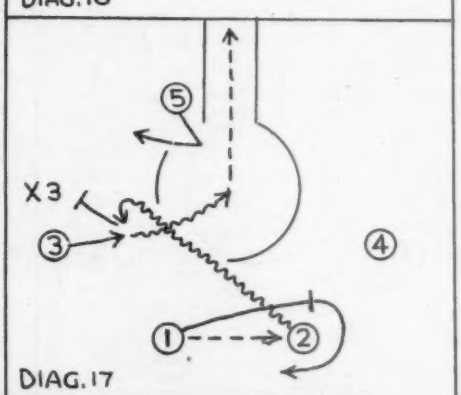
Diagram 18 shows a screen-roll between the guards. O1 passes to O2 and screens. If X1 shifts off on to O2, O1 rolls his screen for a return pass. This play is effective because O1 has position on X2.

Diagram 19. Five men begin to work in to the options. O1 passes to O2 and screens. O2 dribbles clear, around the screen. If O2 cannot go all the way, he stops and passes to O3 who cuts around O2's screen. O3 then feeds the post. O5 can shoot or pass to O3, O2, or O4.

Diagram 20 continues the optional series. O1 passes to O2 and screens. O2 dribbles clear, but cannot drive through. O2 stops and slips a pass to O3 who cuts around behind O2's moving screen. O3 then cannot feed the post or break clear, so he sets up a post for O4 to cut around.



DIAG. 16



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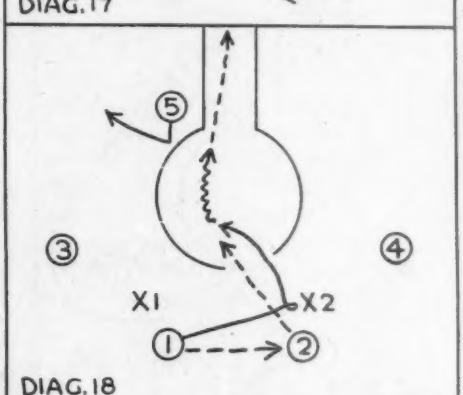

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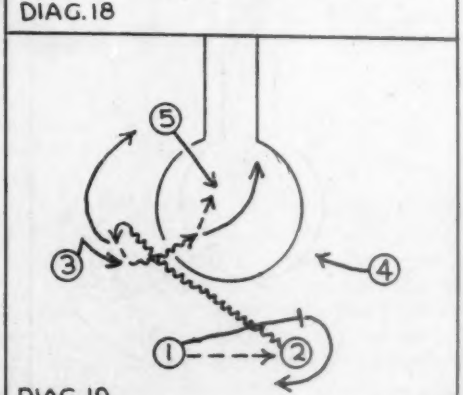
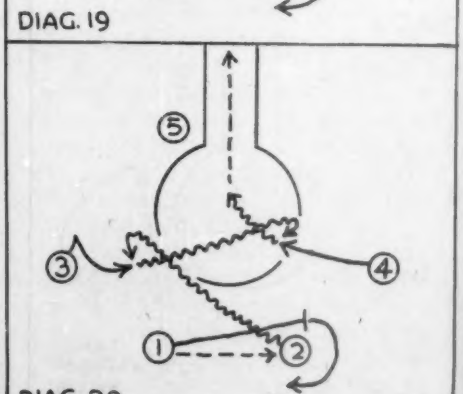
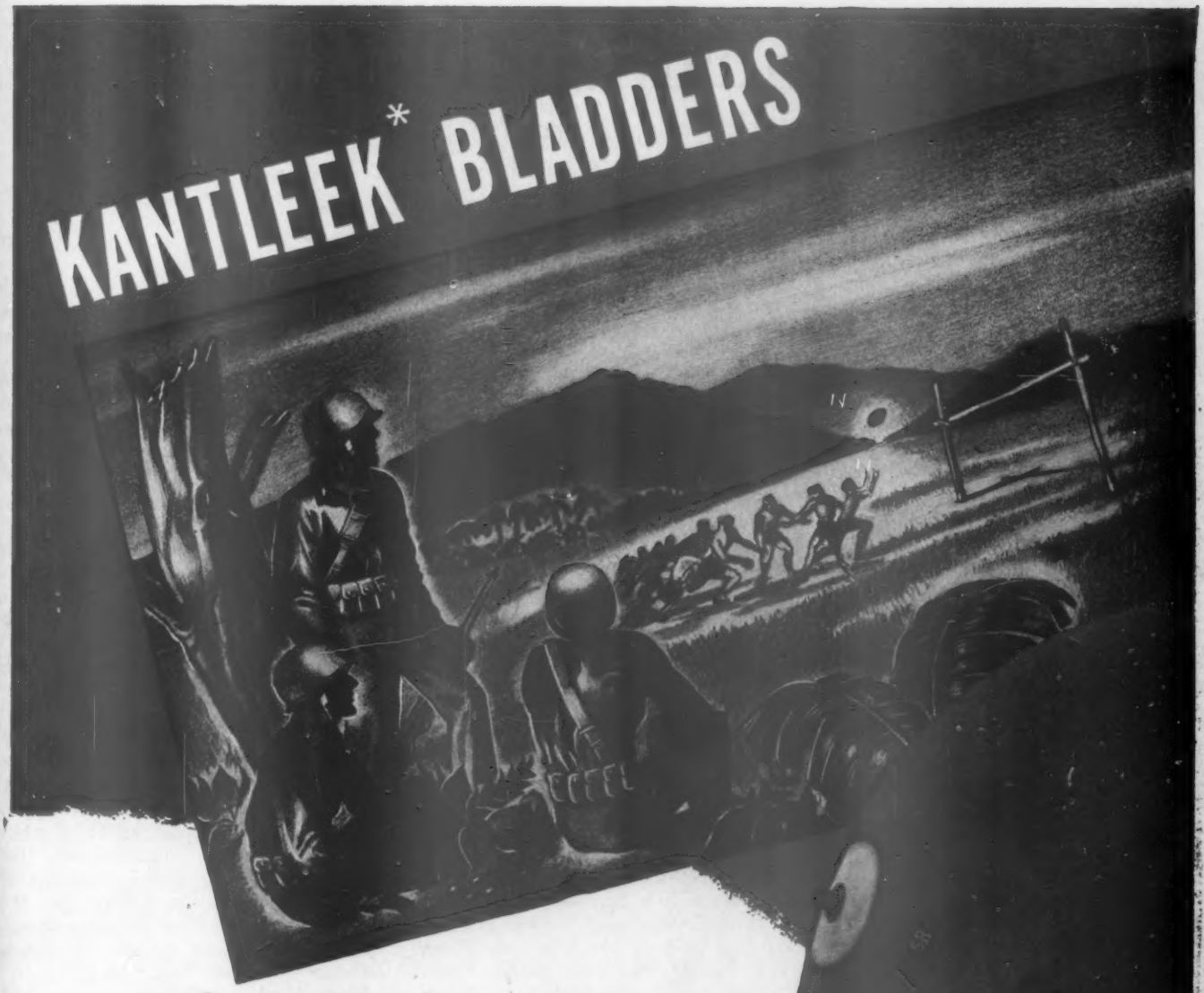


DIAG. 19



DIAG. 20

KANTLEEK* BLADDERS



Goal to go!

When it's time out where they're digging in, chances are they're playing football. Chances are too, that the ball that's taking a beating in the arctic cold or the tropic heat, is equipped with a KANTLEEK* bladder. It *holds air longer* because it's made of a remarkable new synthetic that's firmer-grained, less porous than natural rubber. KANTLEEK* bladders have KANTLEEK* patented valves (no metal or mechanical parts) another exclusive feature. In war as well as peace, KANTLEEK* bladders are on the job!

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It's Fundamental Time!

By Everett S. Dean
Director of Basketball, Stanford University

IT'S fundamental time again for the most-played sport in this country. It is hoped that the graphic picture on the opposite page will assist the new and inexperienced coaches in starting off their season with a plan. The chart sets up a series of fundamental drills covering four divisions of fundamentals, namely, basket shooting, passing, footwork, and drills for co-ordinating fundamentals and parts of the offense. At the end of each lateral column the reader will find a general recommendation as to the proper time for practice on those fundamentals (columns should be read from left to right).

Shooting Drills

Diagram 1 shows a simple formation for the two-hand shot. One ball to three players makes a satisfactory arrangement for good basket-shooting practice. This formation lends itself to three phases of basket shooting, the first of which is a stationary shot about twenty-two feet from the basket. In learning shooting form, it is best for the player to be fairly close to the basket and to make the shot unopposed.

The second or third week of practice calls for the second phase of basket shooting from this formation. The squad should move backward ten feet toward the middle of the floor, thus giving the players room to dribble forward to their original positions. There, they come to a running-stride stop, maintaining good body balance and from that position taking the two-hand shot. This type of practice more nearly approximates game conditions and this is necessary.

The third phase of shooting from this formation comes from the original position where one of the three players on one ball takes a shot and follows it. Upon recovery of the rebound, he passes to his team mate, and immediately assumes a defensive position against him. This gives the shooter practice against opposition and gives both men good practice in rebounding. The defensive man keeps that position until he recovers the ball. This is an actual game situation and can be worked into the daily basket practice after the players have had sufficient practice without opposition.

Diagram 2 illustrates the old-fashioned and most commonly used short-shot drill and pre-game warm-up exercise. It embodies much passing, running, and shooting and is simple in execution.

Diagram 3 is a drill designed to teach correct maneuvering to shoot behind a block. It takes good co-operation between the shooter and the blocker to obtain efficiency in this play. Footwork is important in this play, and practice on it should be delayed until after the third week. This play might be used as a play possibility in the bottom column of the chart.

Diagram 4 shows the follow-up triangle. Players 1 and 2 are the shooters while the 3 men in the triangle follow up the shots and practice the skill in follow shots, but maintaining the triangle position. Players will necessarily have to change positions, a fact which calls for alertness in keeping the formation balanced. Later, one and two guards should be added to the drill to present game conditions.

Passing and Ball-Handling

Diagram 5 shows a formation which is an "Old Reliable" for early season work because it is full of fun and action. Fundamentals of passing, eye deception, and individual defense can be taught in a short time. The defensive man in the circle takes the place of the player whose pass he deflected.

Diagram 6 is a peripheral vision and passing drill. Six men form a straight line facing one man who stands about ten feet in front. The drill calls for two balls, one in the line and one in the hands of the player in front of the line. The balls should be kept separated as much as possible in order to give the player in front more peripheral vision practice. This drill is a fine push-pass developer and, at the same time, develops strong finger and arm muscles.

According to Diagram 7, two columns of single file line up on either side of the floor. Player 1 passes the ball to player 2, goes to the right, and joins the rear of the opposite line. Players on either side change in this manner and keep on a continuous run. Various passes may be practiced.

Diagram 8 illustrates the five-man weave or criss-cross, which is a good ball-handling and passing drill. Timing is a major fundamental, and no drill offers more practice in timing. This drill might be delayed until the second or third week. It, however, possesses a "kick" or motivation that helps the boys enjoy practice.

Footwork

Practice in footwork should be started gradually until the players' feet become toughened. After the second or third week, the players should be able to take their footwork in stride.

Diagram 9 illustrates a mass drill which we often use to teach the fundamental offensive positions and defensive footwork. The encircled X is the leader of the squad. All members of the squad "follow the leader" and go through every movement made by him. Correct body balance and good form may be taught in this mass formation. This drill provides an excellent opportunity for the coach to observe fast and slow reactions of the players.

Diagrams 10, 11, and 12 illustrate the stop and turn, the pivot and change of direction. Note the combination of two forms of footwork in Diagrams 11 and 12.

Co-ordinating Fundamentals and Parts of the Offense

After practice has been under way two or three weeks, it is well for a coach to start putting his offense together by using some fundamental drills which are segregated parts of his offense. Thus, while practicing certain fundamentals, the players are learning play possibilities at the same time. The coach may place the emphasis upon whichever department, fundamentals or play options, that needs the more attention at that time.

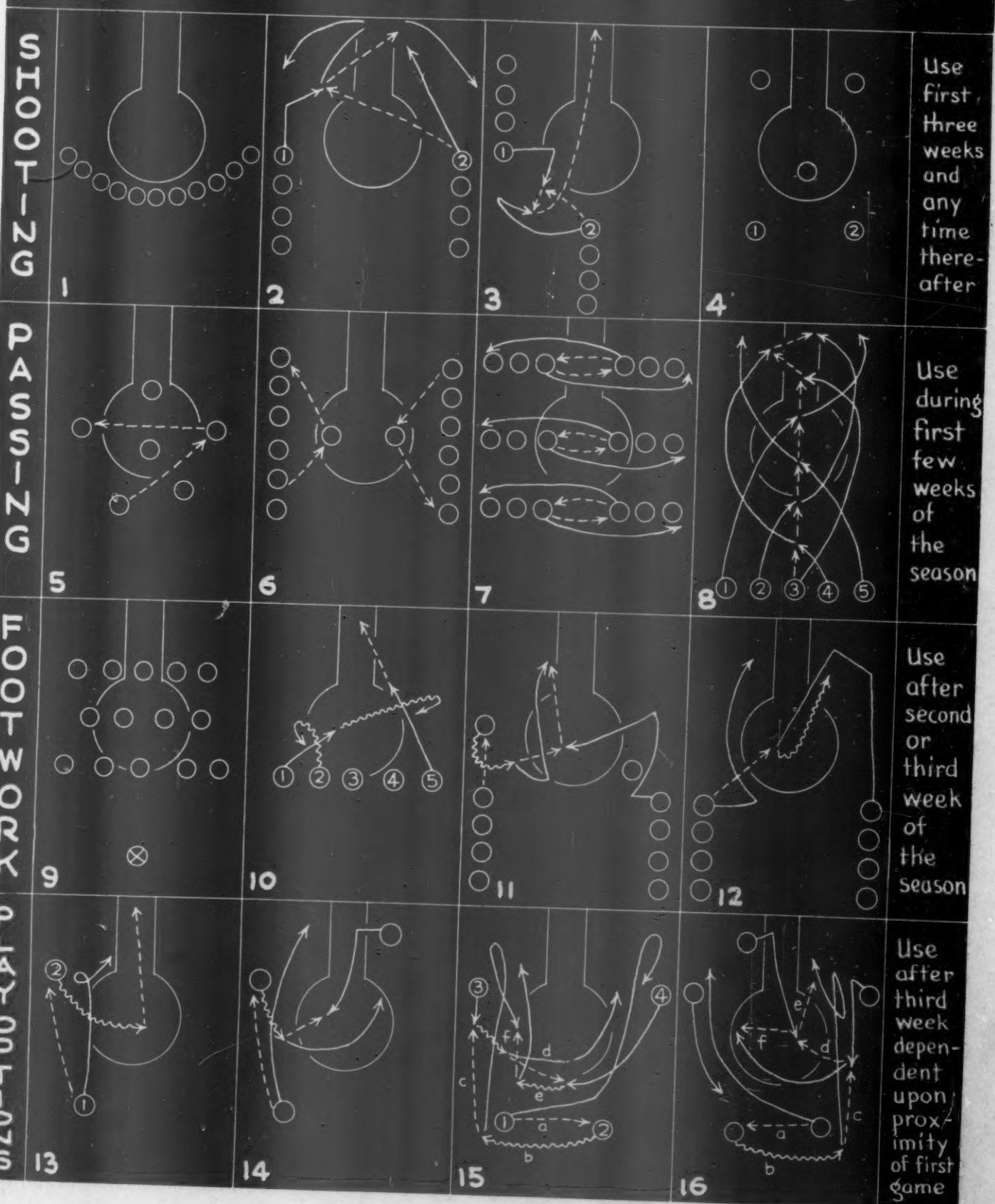
Diagram 13 shows the side screen and the resultant one-hand shot in the free-throw ring. This fundamental drill is extremely practical and simplified for effective teaching.

Diagram 14 illustrates the next progressive step by the addition of a pivot man to the play, thus making a three-man play possibility. This drill should be used considerably because of its real game conditions.

The four-man weave, shown in Diagram 15, is a maneuver which requires good timing. After two- and three-man play options have been practiced, it is wise to give some practice to this four-man weave because it is the framework around which this type of offense will be built. The continuity of movement, if well timed, makes more defensive problems for the opponents.

Diagram 16 is an example of 5 against 5. The pivot man has been added to the four-man combination. Team fundamentals as timing, floor balance, shooting balance, offensive and defensive balance, follow-up formations, and other fundamentals, can be practiced in the drill of 5 against 5. (In diagrams 15 and 16, the path of the ball is indicated by the letters a, b, c, d, e, f.)

CHART OF FUNDAMENTAL DRILLS



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JOHN L. GRIFFITH, Editor

Sports For Soldiering

IN A broadcast on October 7, Colonel Robert R. McCormick, editor and publisher of the Chicago Tribune, discussed, in substance, the question: "Why is it that the American fighting men are superior to the fighting men of the other countries?" This subject was not announced, but it covers the point in question. With the permission of Colonel McCormick, we are publishing, herewith, excerpts from this very interesting address.

I have been asked on numerous occasions how it is Americans have defeated German and Japanese troops who had overthrown all of their other adversaries.

The answer should be obvious to Americans who have traveled abroad, if not to those who have not been out of this country, and who think that the countries at war with Germany and Japan are other Americas. Such is far from the case—the lives of these peoples are utterly different from ours.

Elsewhere in the world where sport exists at all, it exists only for the few. When the duke of Wellington made the remark: "The battle of Waterloo was won on the playing fields of Eton," he was referring to the advantage that sports had given to his officers. Only with us are sports for the whole people, and sports are the best foundation for soldiering.

Baseball and football teach all of the movements used by the soldiers in combat. They teach in the earlier years an instinctive control of the body that cannot be developed on the drill field or in maneuvers in adult life.

In my college days no baseball player was ever made in college, that is, after his seventeenth year, and while a few giants learned to play football in the close order football of that time, I am sure no boy of eighteen could learn to play modern football. The youth of other countries, therefore, as compared with ours, come to their armies under a handicap that nothing can overcome.

The records at Great Lakes Naval Training station show that 40 per cent of the entrants are capable swimmers—an accomplishment that not only means the difference between life and death in emergency at sea, and between the failure and success of a river crossing, but a refreshing sense of security when on the water.

As with the physical, so with the mental in sports. These develop a quickness of reactions. They give a judgment of distances at the closer ranges which cannot be learned without years of practice. It goes without saying that in throwing missiles of whatever nature, they have an advantage over all others. The player of games has learned the necessity of discipline—that some one must direct the game and the others must obey.

The practice of sports ingrains upon players the necessity for team play and a mutual assistance.

The American acceptance of discipline is not based upon the class distinctions of Europe. Hence no sense of inferiority exists. Such a sense of inferiority toward the established upper classes naturally carries with it a sense of inferiority toward the enemy.

Our soldiers and sailors of the last two wars have had these advantages, which made up for the loss of the pioneer conditions which made the soldiers of our earlier wars irresistible.

Keep Fit

THE American Medical Association, in collaboration with other organizations, is undertaking an educational campaign designed to point out to the American people the desirability of physical fitness. The war, of course, has focused attention on this matter, and all, certainly, should appreciate the fact that, while the American people have done a splendid job in the matter of turning out supplies, guns, tanks, planes, and munitions, and our young men have done a marvelous job of fighting, the American people, as a whole, can, with profit, give more attention to this matter of physical fitness than they have ever done before.

Many are pointing out the necessity of starting with the youngsters and of teaching them to take pride in good physical and health condition. The work, however, should also extend to the adults who should set the pace for the children.

As we have pointed out before, the American Legion is tremendously interested in this general problem and is paying special attention to community athletics.

The Living Memorials Committee, under the direction of George M. Trautman, of Columbus, Ohio, is suggesting to the American people that they consider the advisability of erecting athletic grounds and buildings as memorials to those who have died in this war.

The National Physical Fitness Committee is, of course, very much interested in this question and is doing everything it can by way of helping with the educational process.

The Industrial Recreation Association is working through industries with the thought of improv-

ing recreational facilities for the men and women who work in the factories.

May we suggest a plan that would result, we are sure, if followed, in spreading the gospel of physical fitness. Our idea is this, that in a given community, let us say a community of five or ten thousand people, the high school principal, or the coach, or the athletic director, or the American Legion Post commander, or some minister, or doctor, or industrialist, form a community "Keep Fit" organization. If all the men and women, connected with these organizations which I have enumerated, and others, were to meet in their several communities from time to time, study this problem, and decide what could be done in the community to improve the physical fitness of the people of that community, much good would be accomplished.

A prominent life insurance company has motion pictures that are designed to show the value of physical fitness. The American Legion distributes the Athletic Institute's pictures, "Make the Most of Playtime." A great deal of literature has been compiled which would be available to those who wanted to organize a community "Keep Fit" committee.

There are possibly twenty thousand high school coaches, athletic directors, and principals who handle athletics, most of whom are called upon, from time to time, for athletic talks. Here is a splendid subject for the schoolmen to discuss when they make some of their athletic talks.

It is customary for many people, who call attention to the fact that far too many of our boys were rejected for service because they were physically unfit, to argue that the reason this situation exists is because we have spent all of our time and money on training the athletic men and boys. This logic is fallacious. Let us consider in what way it is fallacious. Mr. So and So, in a speech on athletics, states that out of every one hundred thousand boys, eighteen years of age, who reported for service, twenty-five thousand were found unfit for military duties. Mr. So and So then continues by suggesting that we have failed in doing our duty because we put all of our time and money into the making of championship teams and championship athletes.

The implication of this argument is that, if we did not let the athletic type boys organize games, or play on athletic teams, thus we would find some way to force the non-athletic lads to participate in athletics.

We have long argued that all of our students, in the schools and colleges, should be required to give some time and attention to the physical training work and to study means of keeping physically fit. In other words, it is not necessary to prevent the athletes from playing games in order to require the non-athletes to do something for themselves by way of improving their physical fitness.

If our army of twenty thousand coaches would take the responsibility of starting to form, in their several communities, educational campaigns, we are sure would be accomplished.

A "Keep Fit" committee in the towns and cities of the United States could do a great service to the people in those communities. All that is needed is for someone to start an organization. School and college men are equipped to furnish the organizing incentives.

We Are Better Equipped

ACCORDING to the Associated Press, Commander Gene Tunney, U.S.N.R., in a story dated October 19, was quoted as saying, "We are better equipped than any other nation in the world to carry on a long war because of sports."

Commander Tunney has had a splendid record as an athlete and is a man who has been very much in the public eye. He served in the last war and has done an excellent job in the matter of organizing the chief specialists in the United States Navy in this war. He has, however, at different times, been quoted as having different opinions regarding the value of athletics to a nation at war. This is all immaterial and is mentioned just by way of recording the facts. At any rate, according to the stories in the papers, the commander intimated that a talk with Douglas MacArthur, in New Guinea last December, had a great deal to do with his change of attitude toward sports. We recall an occasion in which we were discussing this question, and the commander said something like this: "Instead of an athlete to fight in this war, give me a man who lies on his back and reads Keats and Shelley." Perhaps the commander was being facetious at the time, and we mention the matter to indicate that big men change their minds from time to time.

Tunney, according to the story in the paper, quoted General MacArthur as saying that football and boxing are the best sports for the development of the fighting man, but the general added that it was his belief that any game would develop gameness and fortitude, qualities which are essential in the fighting man.

The commander was also quoted as saying, "I believe the spectator benefits as much from watching as does the participant, because he sees courage demonstrated, and the spectator wants to be game; he wants to be courageous and, if put into military uniform, he will turn out almost as good a job as the participant." In conclusion, Commander Tunney said, "If you drop varsity sports, you are dropping something very essential to the American make-up."

When the war started, there were a number of people in the United States who doubted the advisability of carrying on athletics for the duration. Gene Tunney, and others of prominence, were in that group. Today, those who have had an intimate connection with the war, and who understand the situation, almost universally agree that the colleges, which carried on their sports during the war, were doing their patriotic duty. MacArthur, Marshall, Nimitz, Halsey, Arnold, and many more of the great admirals and generals, who are leading us to victory, have, at one time or other, expressed their belief in the efficacy of athletics in the training of fighting men.

A Question and Answer Period

By Clifford Wells
Basketball Coach, Logansport, Indiana, High School

AT the Indiana Basketball Coaching School, sponsored each summer by the author of this article, time is set aside for questions and answers. Much valuable information may be found in the concise answers.

QUESTION: How long do you practice your boys each day?

ANSWER: We practice about two and a half hours each day until the season starts, then practice periods vary in time as to necessity and interest. It is better to have short, hard workouts than long practices that drag and lack interest.

QUESTION: What do you do during your practice periods?

ANSWER: We have our fundamental drills and shooting practice the first half of our workout, all our drills having short shots at the end of the drill. We then have dummy scrimmage with instruction in our style of offense and defense and end this with a scrimmage.

QUESTION: What time do you give to shooting free throws?

ANSWER: Each boy on our squad will average shooting about fifty free throws each practice. We shoot these during the fundamental-drill period, during scrimmage, and at the end of the practice, each boy making five free throws before going to the showers.

QUESTION: What are your training rules?

ANSWER: A boy should not use liquor or tobacco in any form. He should get at least nine hours of sleep with an observance of regular hours, say ten P.M. on all school nights and eleven-thirty P.M. Friday and Saturday nights. His meals should be served at a regular time each day. Regularity is what makes our men in the service gain weight and helps put them in good condition. A boy should not eat too much greasy food nor too much pastry.

QUESTION: How much time do you spend on fundamentals?

ANSWER: In the early season practices, I drill on fundamentals about half of the time. I drill on each fundamental about the same amount of time until I see how the boys progress. To those who need more time, I give it and less to those who are more proficient. As the season goes on, I drill on those fundamentals in which we show weakness and need improvement. Necessity determines the amount of time given fundamental drills.

QUESTION: How many boys do you carry on your squad?

ANSWER: We vary from twenty to twenty-five boys on our squad which include both our varsity team and our second team.

QUESTION: Do you play the same defense against all teams?

ANSWER: No, we do not. We plan our defense to stop the style of play used by our opponents. We play a zone, if we think it the best type to stop our opponents, or a man-for-man, or a pressing defense. The type of defense that boys play best should be suited to the style of offense of their opponents.

QUESTION: How many plays should a team have?

ANSWER: That depends on the personnel of a team. Some boys can learn and execute a few while others can master more. A coach will have to give them a few, and add to that number until he feels that he has given them all that he wants, or until they reach their limit.

QUESTION: Is it worth while to have jump-ball plays?

ANSWER: Yes, I think so. We have three plays that we use. The jumper gives the signal. These plays are so used as to insure a safety set-up. In case we do not get the tip, we are in a good defensive line-up.

QUESTION: Are out-of-bounds plays worth the time spent in teaching and drilling them?

ANSWER: Yes, the time spent in teaching or drilling any set-up has its fundamental value. Another thing, which might be said, is that out-of-bounds plays occasionally work for goals or help get the ball in bounds safely.

QUESTION: What should be the balance on teaching offense and defense?

ANSWER: My idea is to teach offense and defense half and half. I believe in having a good strong defense at all times. There are nights when a team will not hit the basket well and a coach may have to depend on a good defense to win. As far as practice is concerned, the time on drilling offense or defense should be divided as to the team's need. This depends, too, on which is more needed as the season progresses.

QUESTION: Is the one-hand shot a fad, or is it here to stay?

ANSWER: The one-hand shot is here to stay, because it is fundamentally sound, if taught the correct way. The shot, if put from the shoulder, can be followed through, and be more accurate than a two-handed set shot.

QUESTION: Should styles of play be suited to the material at hand?

ANSWER: Yes, absolutely. A good fast break should not be attempted without speed boys. A group of big, slow boys should play a slow, set style, using height and ball-handling to advantage. The style of play should be adapted to what the boys do best.

QUESTION: Why is it that some coaches or teams have great success over a period of years in tournaments?

ANSWER: Tradition plays a very important part in their success. They key up the boys, and plan to reach their peak at such times. Consequently they do their best playing then. After a few successful years doing this, they get the reputation of being great tourney teams, and they, themselves, believe it which gives them a great psychological advantage. Other teams fear meeting them which is another advantage. Nothing succeeds like success.

QUESTION: Is it the best policy to take a player out of the game when he has commited three (now it will be four) personal fouls and save him to put back in the game later?

ANSWER: There are two schools of thought on this procedure. First, the coaches who leave the player in, and get out of him all the possible play they can. They try to build all the margin they can so that the substitute for this player can carry on with all possible advantage. The other coach takes the boy out and saves him for any emergency if the substitute cannot get the job done. I would say that my material would determine this for me. If I had a good reserve to send in, I would use him; if I did not have, I would gamble on the boy with his fouls.

QUESTION: What do you do between halves of a game?

ANSWER: I let the boys stretch out and rest for five minutes. Then I quickly go over the mistakes made and tell them what I want done the second half. A cool, careful period of planning is best in the short time that we have.

QUESTION: What is your procedure in your locker room after a game?

ANSWER: I congratulate the boys if they win and tell them about all the good plays they have made. Now is the time to give constructive criticism. It is accepted well at this time. If a team has lost, I would be kind to the boys. I would be a good loser and lead the way for the boys. I would show them how to take a "licking," and be a gentleman. I would not criticize the team on their mistakes after the game, I would wait for the next practice period. It is easy to restore a team's confidence by a "pat on the back" and a

(Continued on page 28)

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Physical Fitness Tests on a Secondary School Level

By W. R. Bunn
Instructor in Physical Education, Evanston, Illinois, Township High School

MUCH has been said, and is being said, about the total fitness of our American youth today. Our government is eager to find the high school graduate physically fit in order that he may give his best upon joining our armed forces. We also have heard many stories about the fine physical condition of our opponents, especially the Germans. These stories, along with the reports of the many rejections in our armed forces, have caused much concern.

Today, we are doing many things to improve the physical education program of our high schools. We have changed the type of activity, or, at least, changed the emphasis upon certain types of activities; we have made studies in order to determine the weak areas of our body, and a close watch has been kept on the improvement from time to time toward total fitness among our high school boys. Better facilities, improved supervision, and more time given in our school week to physical education, have all contributed to better results. Our health departments, our physical education departments, and the coaches in our sports' programs have all become fitness conscious.

With these things in mind, we are searching for every means to develop the Evanston Township High School boy in order that he may take his place alongside others to make a creditable showing. Those characteristics of total fitness, such as endurance, muscular strength, speed, flexibility, agility, posture, relaxation, fighting spirit, the idea of teamwork, (which includes leadership, fellowship, co-operation, initiative), mental balance, and emotional stability must all be improved.

We have introduced the navy testing program, which includes squat-thrusts, sit-ups, push-ups, squat-jumps, and chins. The tests are given three times: (1) in the fall at the beginning of the school year; (2) at the end of the first semester; (3) at the end of the school year.

A carefully prepared standardized list of instructions for the administration of the tests was sent to each instructor. In giving the tests, each class was divided in half, one half of the group to act as judges and recorders and the other half to perform. The time spent on the tests is kept to a minimum.

An understanding between teacher and pupil as to what is expected in respect to performance on each test is essential.

Squat-thrusts: Performance:

A. *Starting Position:* (1) Performer stands up straight; (2) judge stands by to count number of correct movements.

B. *Movement:* (1) At signal, "ready——go" given by the instructor, the performer quickly bends forward, placing his hands on the floor (fingers pointed forward) in front of the feet (squat position), with arms either inside or outside of bent knees; (2) legs are then extended all the way back with the toes on the floor (the performer's body must sag at the hips while the legs are back; (3) performer then returns to squat-position; and (4) at once stands up straight.

This series of movements is repeated as many times as possible in *one minute*. The performer is stopped at the end of sixty seconds by the blowing of a whistle.

C. *Scoring:* Each time the performer finishes the whole movement through the four positions described above, he is given credit for one squat-thrust.

D. *Cautions:* Do not score the movement if: (1) legs are moved backward before the hands are placed on the floor; (2) there is a hump at the hips when the legs are back; (3) the performer fails to come up to a straight standing position. (Note that the body may be straight and lean slightly forward without penalty.)

Sit-ups: Performance:

A. *Starting Position:* (1) Performer lies flat on his back on the floor with legs straight and feet about twelve inches apart; (2) his hands are joined behind his head with elbows back; (3) the scorer kneels on the floor at the feet of the performer, placing his thighs against the soles of the performer's feet which he holds fast with his hands.

B. *Movement:* (1) Performer raises his upper body and bends forward enough to touch his right elbow to his left knee; (2) knee may be raised a little to meet the elbow but must be returned to a flat position on the floor when the body is lowered; (3) performer now lowers his body to touch the floor; he then sits up as before, except that left elbow touches right knee; (5) he continues to do the movement as long as possible, allowing no time to elapse between successive sit-ups.

C. *Scoring:* (1) Each time that the elbow touches the opposite knee the performer is given credit for one sit-up.

D. *Cautions:* Do not score the movement if; (1) performer unclasps his hands at his head; (2) performer rests or bounces off the floor; (3) he raises his knee while going back to the lowered position.

Push-ups: Performance:

A. *Starting Position:* (1) Performer lies face down with heel-toe line of each foot vertical; (2) hands, with fingers forward, are placed on the floor at shoulder width.

B. *Movement:* (1) Performer raises his body from the floor by straightening his arms with weight of body resting on his hands and toes. The body must be kept in a straight line from head to foot during the movement; (2) from this raised position, the performer lowers his body by bending his arms until his chest touches the floor. He continues the movement as long as possible.

C. *Scoring:* Each time the body is raised and the arms are completely straightened, the performer is given credit for one push-up.

D. *Cautions:* Do not score the movement if: (1) the hips sag or are raised out of a straight line during the movement; (2) the arms are bent at the top of the push-up; (3) any part of the body, except the chest, hands, and toes, touches the floor after the movement is started.

Squat-jumps: Performance:

A. *Starting Position:* (1) While standing, the performer joins hands, palms down, on top of his head; (2) his feet are placed four to six inches apart with his left foot ahead so that his left heel is on a line with the toes of the right foot; (3) the judge stands by to count the number of correct jumps.

B. *Movement:* (1) From the standing position, the performer drops to a squat until he sits on the right heel; (2) immediately, he springs upward until both knees are straight and both feet have cleared the floor, then changing at once to a squat position so that he sits on the left heel. During these movements the upper body should be kept as erect as possible. He continues the movements as long as he can.

C. *Scoring:* Each time the performer jumps off of the floor, he is given credit for one squat-jump.

D. *Cautions:* Do not score the move-

(Continued on page 38)

SEND FOR THIS FREE BASKETBALL FOUL SHOOTING RECORD CHART!

Here's a helpful chart, especially prepared for your use to encourage an organized foul shooting practice and competition among team members and gymnasium students. Actual size 12" x 18"—it's just the thing for your athletic bulletin board.

BASKETBALL FOUL SHOOTING RECORD CHART

NAME AND TEAM	SHOOTING RECORD — X If Made; O If Missed																									Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

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INDIVIDUAL WINNERS		
	NAME AND TEAM	Total
1		
2		
3		
4		
5		
6		

TEAM WINNERS		
	TEAM NAME	Total
1		
2		
3		
4		
5		
6		

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Twenty-Five Years of "Hoosier Hysteria"

By Mark Wakefield, **Director of Safety and Physical Education, Evansville, Indiana, Public Schools**

THE season is approaching when critics get out their hammers and remind us that we shall pay for all this "madness," frequently pointing to this or that case of early death of a member of some championship team.

The author has recently completed an intensive study of basketball effects, determining the number of deaths that have occurred among 2919 men who have played in the Indiana high school state final tournaments from 1911 to 1935. This twenty-

AGE	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	TOTAL DEATHS ACTUAL	TOTAL DEATHS EXPECTED
1911																																						
1912																																						
1913																																						
1914																																						
1915																																						
1916																																						
1917	0	9	21	42	24	8	2																														0	
1918	0	5	27	46	57*	35*	10	2																													2	
1919	0	5	25	46	64	68	37.	10	2																												0	
TOTAL	0	19	73	134	145	111	49	12	2																												2	
EXPECTED DEATHS	0	.054	.237	.486	.576	.473	.224	.058	.010																													2.12
1920	2	11	22	67*	61*	76*	73	37*	10	2																											4	
1921	1	7	23	41	76*	69	76	73*	36	10	2																										2	
1922	0	2	23	41	62	77	73	76	72	36	10	2																									0	
1923	0	3	13	55	57	70	78*	73	76	72	36	10	2																								1	
1924	1	5	11	34	74	61	72	77	73	76	72*	36	10	2																							1	
1925	0	0	17	43	55	84	65	72	77*	73	76	71*	36	10	2																						2	
1926	2	5	14	40	52	66	85	65	72	76*	73	76	70	36	10	2																					1	
1927	0	6	15	42	61	60	69*	85*	65	72	75	73*	76*	70	36	10	2																				4	
1928	1	4	22	37	58	66	65*	68	84	65	72	75	72	75	70	36	10	2																			1	
1929	0	4	11	47*	54	63	66	64*	68	84*	65	72	75	72	75	70	36	10	2																		3	
TOTAL	7	47	171	447	610	692	722	690	633	566	481	415	341	265	193	118	48	12	2																		19	
EXPECTED DEATHS	.015	.112	.451	1.32	1.93	2.30	2.53	2.55	2.44	2.24	1.94	1.66	1.41	1.11	.824	.516	.215	.055	.010																			23.6
1930	1	0	15	49	51*	61	65*	66	63	68	83*	65	72	75	72	75	70*	36	10	2																	4	
1931	0	3	9	45	59	57	61	64	66*	62	65	82*	65	72	75	72	75	69	36	10	2																2	
1932	1	2	13	38	61	71	61	61*	64	65	62	65	81	65	72	75	72	75	69	36	10	2															1	
1933	0	4	10	38	60*	73	73	61	60	64	65	62	65	81	65	72	75	72	75	69*	36	10	2														2	
1934	2	4	19	38*	60	63	74	73	61	60	64	65	62	65*	81*	65	72	75*	72	75	68	36	10	2													6	
1935	0	0	16	41	53	67	64	74	73	61	60	64	65	62	64	80	65	72*	74	72	75	68	36	10	2												2	
1936	0	0	0	16	41*	53	67	64*	74	73	61	60	64	65	62	64	80	65*	70	74	72	75	68	36	10	2											3	
1937	0	0	0	0	16	40	53	67	63	74	73	61	60	64*	65	62	64	80	64	70	74	72	75*	68	36	10	2										2	
1938	0	0	0	0	0	16*	40	53	67	63	74	73	61	60	63	65	62	64	80	64	70	74*	72*	74	68	36	10	2									3	
1939	0	0	0	0	0	0	15	40	53	67	63	74	73	61	60	63	65	62	64*	80	64	70	73	71	74*	68	36	10	2								2	
1940	0	0	0	0	0	0	0	15	40	53	67	63	74	73	61*	60	63*	65	62	63	80	64	70	73	71	73	68	36	10	2							2	
TOTAL	4	13	82	265	401	501	573	638	684	710	737	734	742	743	740	753	763	735	676	615	551	471	406	334	261	189	116	48	12	2							29	
EXPECTED DEATHS	.006	.023	.164	.610	.962	1.25	1.55	1.79	2.05	2.13	2.21	2.28	2.30	2.30	2.37	2.56	2.67	2.65	2.60	2.46	2.37	2.17	2.95	1.70	1.41	1.08	.708	.312	.083	.015								46.69
ACTUAL	0	0	0	5	6	3	4	6	2	2	2	3	1	2	2	0	2	4	1	1	0	1	2	0	1	0	0	0	0	0							50	
EXPECTED	.022	.190	.852	2.42	3.47	4.02	4.30	4.39	4.50	4.37	4.15	3.94	3.71	3.42	3.19	3.08	2.89	2.70	2.58	2.46	2.37	2.17	2.95	1.70	1.41	1.08	.708	.312	.083	.015								72.4

* DEATHS

Table I. Actual and Expected Deaths Among 1359 Regulars Who Played from 1917 to 1935

AGE	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	TOTAL DEATHS (41-49)	(20-49)
1911	0	0	11	21	16	11	5																														0	
1912	0	0	3	17	29	19	15	5																													0	
1913	0	1	14	27	45	38	22	15	5																												0	
1914	0	3	8	34	42	59	41	22	15	5																											0	
1915	0	0	12	30	48	52	63	41	22	15	5																										0	
1916	0	2	10	44	48	56	59	63	41*	22	15	5																									1	
1917	0	0	2	10	44	48	56	59*	63	40	22	15	5																								1	
1918	0	0	0	2	10	44	48	56	58*	63	*40*	*22*	15	5																							5	
1919	0	0	0	0	2	10	44	48	56	57	63	38	20	15*	5																						1	
TOTAL	0	6	60	185	284	337	353	309	260	202	145	80	40	20	5																						8	
EXPECTED DEATHS	0	.017	.194	.672	1.13	1.44	1.62	1.50	1.30	1.03	.753	.423	.216	.110	.029																							10.4
1920						2	10	44	48	56	57	63*	38	20	14	5*																					2	
1921							2	10	44	48	56	57	62*	38	20*	14	4																				2	
1922								2	10	44	48	56	57	61	38	19	14	4																		0	
1923									2	10	44	48	56	57	61	38	19	14	4																	0	
1924										2	10	44	48	56	57	61	38	19	14	4																0	
1925											2	10*	44*	48	56	57	61	38	19	14	4															2	
1926												2	9	43	48	56	57	61	38	19	14	4															0	
1927													2	9	43*	48	56	*57*	61	38	19	14	4*														3	
1928														2	9	42	48*	56	54	61*	38*	19	14	3													3	
1929															2	9	42*	47	56*	54*	60	37	19	14	3												3	
TOTAL						2	12	56	104	160	217	280	316	334	348	349	339	296	246	190	135	74	37	17	3												17	
EXPECTED DEATHS						.007	.042	.207	.400	.634	.875	1.15	1.31	1.40	1.49	1.53	1.52	1.36	1.17	.948	.715	.415	.220	.106	.019													15.5
1930																2	9	41	*47*	55	53	60	37	19	14	3											2	
1931																	2	9	41	45	55*	53*	60*	37	19	14*	3										4	
1932																		2	9	41	45	54	52	59	37	19	13	3									0	
1933																			2	9	41	45	54	52	59	37	19	13	3*								1	
1934																				2	9	41	45	54	52	59	37	19	13	2							0	
1935																					2	9	41	45	54	52*	59	37	19	*13*	2						3	
1936																						2	9	41	45	54	51	59*	37	19	11	2					1	
1937																							2	9	41	45	54	51	58	37	19	11	2				0	
1938																								2	9	41	45	54	51	58*	37	19	11	2			1	
1939																									2	9	41	45	54	51*	57	37	19*	11*	2		3	
1940																										2	9	41	45*	54	50	*57*	37	18*	10	2	4	
TOTAL																2	11	52	99	152	205	264	300	318	332	335	331	322	280	234	176	126	69	31	12	2	19	
EXPECTED DEATHS																.007	.038	.187	.376	.608	.881	1.21	1.44	1.62	1.79	1.91	2.02	2.09	1.93	1.73	1.41	1.08	.641	.310	.129	.023		21.45
TOTAL Actual	0	0	0	0	0	0	0	1	2	0	2	4	2	1	2	1	2	3	3	2	2	1	2	0	0	2	0	1	2	4	0	2	1	2	0	0	44	
TOTAL Expected	0	.017	.194	.672	1.13	1.44	1.66	1.70	1.70	1.66	1.63	1.57	1.52	1.51	1.51	1.53	1.56	1.54	1.54	1.56	1.60	1.63	1.66	1.73	1.81	1.91	2.02	2.09	1.93	1.73	1.41	1.08	.641	.310	.129	.023		47.35

* DEATHS

Table II. Actual and Expected Deaths Among 365 Men Who Played from 1911 to 1916

five-year period marked the beginning and the end of the traditional sixteen-team tournaments which brought Indiana basketball into national prominence. Probably no large group of high school basketball players has experienced a more severe campaign of hardwood sport than these men.

The principal object of the study was to find whether the death rate among the men who had played basketball compared favorably or unfavorably with men in the general population. United States life tables were used as ready-made measures with which to compare the basketball group. The fact was not overlooked that the basketball players do not represent an average group. Had the basketball players not shown up better than average men, the results would have indicated an unfavorable situation.

Other studies with respect to longevity of athletes have indicated that some groups of college athletes had a life expectancy greater than insured men. With some groups this advantage was as much as twenty-five per cent.

Among the 2919 men included in this study, 123 deaths occurred between March 15, 1911, and March 15, 1940. On the basis of the life tables used, the number of expected deaths was 181.1, indicating a ratio of 67.9 per cent between actual and expected deaths. This represented an advantage of 32.1 per cent for the basketball group over men in the general population. Tables recently published by the United States Bureau of the Census revealed that the death rate in the east, north and central states, which include Indiana, was

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lower than for the country as a whole. When correction was made for this difference, the basketball group was found to have an advantage of approximately thirty per cent over average men. The death rate among the basketball players was found to be equivalent to the rate which would be expected to prevail among men in the general population if the average length of life were seventy years.

Table I illustrates the manner of determining the number of expected deaths among the basketball players. (A complete table showing actual and expected deaths among the entire basketball group has been published.)[1] The numbers within the squares represent the number of men at a given age during each year covered by the study. Between 1917 and 1935 there were 1359 players who, according to the limitations of the study, were designated as regulars. Among this group there were actually fifty deaths prior to March 15, 1940. On the basis of the life tables used, 72.4 deaths should have been expected. This represents a ratio of 69.1 per cent between actual and expected deaths which is quite close to the 67.9 per cent indicated for the entire group of basketball players.

Table II presents the case of 365 men who played between 1911 and 1916. There were 44 actual and 47.35 expected deaths between 1911 and 1940. The ratio of actual to expected deaths was 92.9 per cent. While this ratio is still below the rate for men in the general population it is not so good as should be expected from a group as highly selected as these basketball players. This group presented the least favorable picture of all groups considered. On the basis of this study this situation must be interpreted as unfavorable to basketball.

Presumably, these men played under conditions which were not conducive to proper health results. It may be that lack of adequate medical supervision was important. It might have been other conditions such as poor playing facilities, untrained coaches, unrestricted schedules, or playing on too many teams.

The results of this study thus, while presenting a situation generally favorable, do not represent a complete whitewashing of the game insofar as possible deleterious effects are concerned. It would appear that unfavorable outcomes may result under certain unfavorable conditions of playing. Besides the men who played in the early days of loose supervision, two other groups pointed to the above conclusions. Men who played for schools assumed to have placed great emphasis on the game showed a ratio of 83.8 per cent between actual and expected deaths, and the most favorable picture of all was presented by the substitutes with a ratio of 49.3 per cent between actual and expected deaths.

The results of this study should not be interpreted to indicate that basketball playing increases length of life. Basketball players probably live longer than average men because they represent a select group. What the study does indicate, however, is that playing basketball of a very strenuous type does not prevent the group from maintaining a life expectancy much superior to average men.

[1] Wakefield, M. C., "A Study of Mortality Among Men Who Have Played in the Indiana High School State Final Basketball Tournaments," Research Quarterly, Vol. 15, March, 1944, pp. 2-11.

Make Your Defense Simple

(Continued from page 12)

Lack of intelligence or normal concentration is not the reason for this. It is because you are teaching actions that must become reflexes, or they will be interfered with by the distractions of the game. In this case, the end must go across the line a certain distance every time the opposing center snaps the ball. That action must become automatic, and it takes a great amount of work and a long time to make it so.

Coaching is therefore a slow and tedious process that is mostly hard work in drilling boys in simple things over and over until they are done correctly. Learning, for your players, means constant repetition and a fair amount of drudgery. How much they learn and how fast they learn depend upon their ability and the amount of drilling they do. At best it is very limited. Recognize this fact, and you get to the basis of your coaching. It must be simple; it must be repeated until learned. Systems and fancy plays do not fit into such a scheme. Perhaps, somewhere, coaches find boys who learn differently but your boys will learn slowly, and your teaching will be a tedious process. If you are wise, you will make everything simple.

A Question and Answer Period

(Continued from page 20)

talk on the hopes for future games. "It is not how hard you fall, but how far you bounce back that counts."

QUESTION: What do you do when your opponent uses the basket-hanger play or the long pass from the guard to a man hanging back under the goal after your team has taken a shot?

ANSWER: Teams that use this play hurt their own defensive set-up. I suggest using a possession game and move the five players in an offensive style to get the best

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possible shots against the four that are playing the defensive game for the opponents. I would not keep a guard back to cover the basket-hanger and keep him out of my offensive play. You have five against four, so take full advantage of that extra man offensively. Keep the ball until you get the kind of shots you want. As long as you have the ball, the basket-hanger cannot hurt you.

QUESTION: What do you look for in your scouting and do you do much scouting?

ANSWER: We scout our rival games and tournament opponents. I look for definite offensive set plays and try to figure on a defense for that type of play, as used by this particular opponent. I look the individual players over, and try to match my players with them, figuring on height, weight, and individual cleverness and speed. I try to discover any weakness in the other team's defense, either individual or team.

QUESTION: When your players get tired of practice drills, what do you do?

ANSWER: Whenever possible, I put competition into my drills. For instance, in dribbling or shooting drills, one group may compete against another group in time or number of goals made. A team should not stay on any drill for too long a period of time, and there should be many different drills. "Variety is the spice of life."

QUESTION: How do you correct fumbling on the part of certain players?

ANSWER: I teach the boys to reach for the ball with hands cupped and with the fingers of each hand in a cupped position. As the ball comes into the finger tips, I have the boys spread their elbows, bring the hands back toward the body, and take the force off of the ball as it comes to them. I tell the player to catch the ball before thinking of throwing it. Too many fumbles are made because the player, receiving the ball, is thinking of passing the ball before he actually has possession of it. A good rule is catch the ball before passing.

QUESTION: How much time do you devote to instruction of your opponents' play in the week preceding a game with them?

ANSWER: The importance of the game determines the time given. If it is a game, we want very much to win, we spend about one-half an hour each practice period going over our scouting report, and building, or keying the boys up to the game that week-end. If it is a game we are taking in stride, on the day before this game, we spend about half an hour on instructions concerning this particular game.

QUESTION: Do you have a definite form in shooting free throws?

ANSWER: No, but I like the underhand form best. Most of my boys have better shooting averages, using the underhand form. However, if a boy hits better by using another form, we do not change it. The best method is the one in which the boy makes his best average.

T-Formation Strategy

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Q NO. 1 In this "Counter Play Off Tackle", fullback (player on extreme right in picture) will receive ball. What maneuver is quarterback executing here?

Q NO. 2 This "Quick Kick" Play is executed by the fullback. How does he receive the ball when he is 10 yards back and the quarterback is over center?

Q NO. 3 What players are these and how are they lined up?

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How to Combat a Pressing Defense

By John A. Krafft

Athletic Director and Basketball Coach, Elgin, Illinois, High School

THE first thing to do to combat a pressing defense is to build up individual cleverness. This can be done through a series of special exercises upon which we spend hours every month.

All players must learn to fake one way and go another. They must fake frontward, sideward, backward, and in all directions. They must learn to fake one, two, three, and even four times if necessary. Fakes may be made with the entire body or with parts of the body.

After the ball has been thrown in court to the player who is loose, the one receiving the ball must dribble low to control the ball. He must dart one way and drive another, one, two, or three times depending upon success. As he darts and drives to get around the defensive forward, the forward may back up. If he does, the guard will easily, and soon, get the ball past the middle of the floor. The dribbler with the ball may body-fake and feint to make his job more easy.

In order to teach the aforementioned fundamentals, we line up the players the length of the floor one against one, as shown in Diagram 1, to practice these stunts. O is on defense; X has the ball. X dribbles the length of the floor. O on defense tries to stop him.

In Diagram 2, we have an exercise in which we practice getting loose from our opponents. This exercise may be practiced on either side or in the middle of the floor. X1 passes to X2 after X2 jockeys and feints to get loose from O who guards him. O is on defense and attempts to keep X2 covered.

After the fundamentals mentioned have been learned, most any set-up will be successful in bringing the ball down the floor.

In Diagram 3, the guard passes in to his companion guard and rushes down the floor, receiving a return pass. This places four on three for a scoring situation. X1 passes to X2 who return-passes to X1 who drives down the floor rapidly.

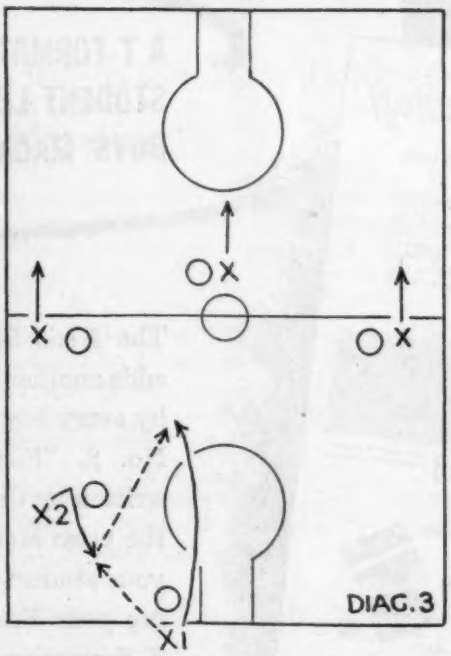
In Diagram 4, the guard passes to the companion guard, and each guard blocks for each other until the ball gets across the middle of the floor. With the guard in possession of the ball, all players advance down the floor as rapidly as he progresses and proportionately. X1 passes to X2. X1 screens for X2 who keeps the ball, getting it across the middle.

Diagram 5 shows what to do if a guard cannot get loose. He screens for the forward while he gets open to receive the ball, and bring it down the floor. X1 fakes a pass to X2 but passes to X3 after X2 screens the guard of X3. X2 then goes down in the forward position.

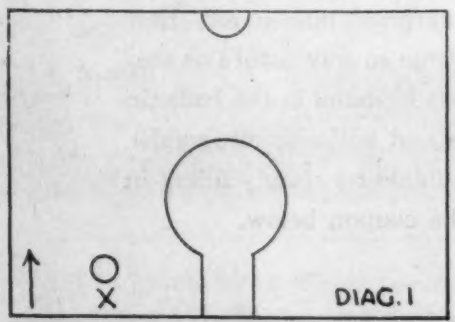
Diagram 6 shows that, if the guard and forward are both held up, they screen for the last forward who receives the ball and bring it down. X1 fake-passes to X2, who screens X3's guard. X3 comes up to get the pass but screens for X4. X1 passes to X4. X4 and X1 bring the ball down. X2 and X3 take corner forward positions.

If both forwards and the guard are screened off, the center fakes and cuts to receive the ball as a last resort only. He then brings the ball down the floor or returns it to the guard to bring it down as shown in Diagram 7. X1 fake-passes to X2 who screens X3's guard. X3 comes over and screens X4's guard. X4 screens X5's guard. X1 passes to X5. X5 and X1 work together getting the ball across the middle.

As soon as the players get past the middle, they then set up the regular offensive maneuvers or drive in, if open, for a drive-in shot. The guard throwing in the ball from out of bounds must be careful not to pass in the ball to his companion under the opponent's basket where inter-



DIAG. 3



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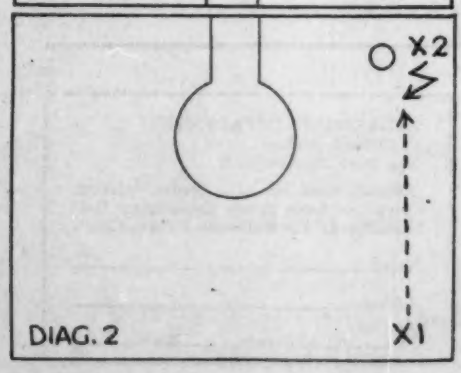
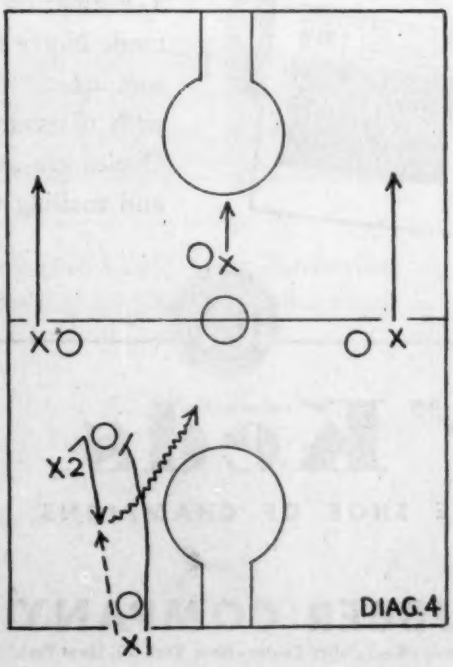
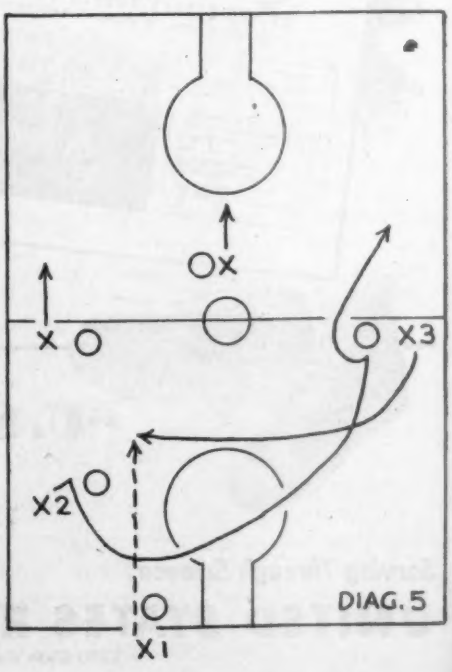




DIAG. 4



DIAG. 5

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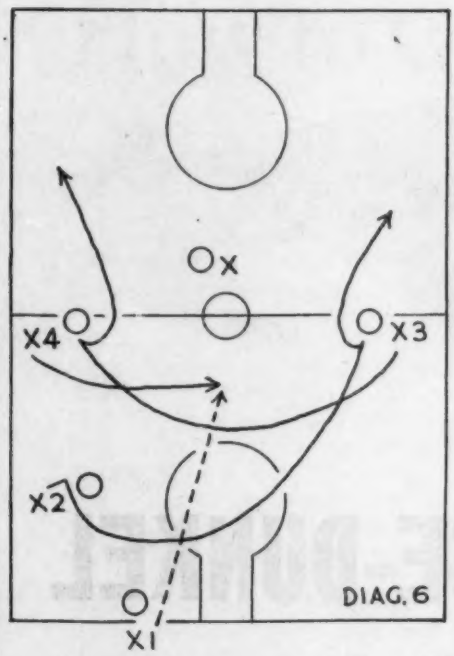

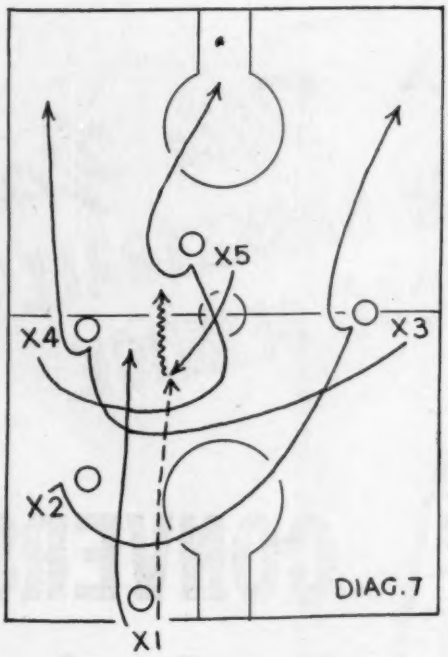

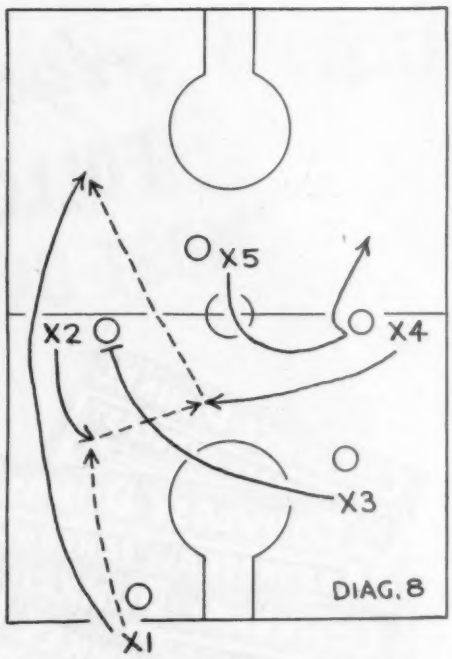

ception is easy.

Special screen plays may be set up in a situation as shown in Diagram 8. X1 passes to X2. X3 screens X2's guard. X5 screens X4's guard. X2 passes to X4 who passes to X1 who shoots. X5 cuts down the floor for the rebound.

A few special hints must be kept in mind against a forcing defense:

1. We use special screen play set-ups, only after scouting a team.
2. We do not relay on screen set-ups.
3. All players should keep a reasonable distance from the side line in order to keep from being boxed out of bounds.
4. Players throwing the ball in from out of bounds should never pass under the opponent's basket.
5. We rely on individual jockeying and faking to get loose.
6. The two best ball-handlers should always be selected to bring the ball down the court.
7. All players should line up on the defensive side of the court at the start, except the center who lines up past the middle.

Athletics in the Scheme of Education

By Howard G. Mundt
Department of Athletics, Carleton College

THROUGH the years, athletic programs have been taking a great deal of criticism from many educators. Why the criticism? Is there something radically wrong with the athletic system? Do athletics contribute anything to the life of the student? Do coaches talk too much and actually do little? Do we have too many of the "ball-and-whistle" type of individual in our programs? Why are there so many petty jealousies between the athletic and academic departments? Will the post-war period bring about a fusion between departments?

It would seem that if there is need of a general "housecleaning," now is the time to start making definite plans. Eliminate as much as possible the usual bickerings between departments as regards the merits of each particular division. A little more broadmindedness on the part of all educators would be a prime asset in disposing of a great many difficulties. Every department and subject must have something to offer, or it would not be included in the curriculum. The life of a college student should be enriched by participation in a number of activities. It seems to me that athletics should be, and are, as legitimate as mathematics or chemistry in the general educational scheme.

If athletics do contribute something to education, then athletic standards must be conducive to that enrichment. We must admit that there has been much internal bickering in athletics in regard to proselyting, eligibility, and recruiting. As athletics are a colorful aspect of school life, such things will come more into the public eye than would the same type of comparable bickering in other departments. Athletic leaders must lean over backwards to keep things on a high level, and at best this is a difficult task.

Much criticism of athletics from other departments comes in the form of statements that athletics take too much of the student's time, and as a result divert his interest from the academic subject. Athletics naturally have an absorbing interest to the average red-blooded young man. This interest often produces a negative feeling on the part of some academic instructors. Too many still go on the philosophy of formal discipline that "it doesn't matter what you study, as long as you hate it." Athletics must be recognized as one of the educational skills, to be added to academic skills, making a well-rounded individual.

We do not mean to say that the individual cannot be successful without having participated in athletics, but in many cases such participation does help. If athletics are not taught with a definite purpose in mind, such as the development of better social habits, then of course they are not worth while. The winning of a contest, at the time, is all important to the contestant and spectator. A few days after, it is usually forgotten. Win or lose, there is developed, however, a sense of loyalty which permeates the whole student body. If such

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NOV. 18—NORTHWESTERN AT NOTRE DAME
WLW, Cincinnati, **WJR**, Detroit, **WJJD**, Chicago

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spirit can be developed from athletics, they must be recognized as important. What opportunities for a coach! The proper development of such spirit will outlast any contest played by any team. William Lyon Phelps in his autobiography said, "Whosoever reaches the top in any department of intellectual, artistic, or athletic competition has some interesting qualities. It is impossible for one to reach eminence without them." The realization of the value of that statement to all involved in education would help immeasureably.

Much criticism of athletics comes from methods of recruiting. Most colleges and universities recruit students. Some may endeavor to recruit athletes for the most part by making offers from the college itself or by some interested alumnus. Athletics must be dominated by the aims of education. If they are dominated in the form of a business proposition, their value is lost. The proper ratio must be kept in regard to athletics and the general educational program. If such perspective is not maintained between departments, then athletics may as well be abolished.

Many students enrolling in colleges and universities need financial aid in order to complete their education. Naturally, there are some athletes in this predicament. Too often, the aid given an athlete is construed by many to be assistance only for the purpose of building a winning team. This may be true in some cases, but for the most part, I believe that such aid is legitimate. If aid is given a student actually in need, whether he is an athlete or not, makes no difference. Legitimate aid for athletes then should not be criticized. If aid is given on the individual's ability in athletics only, then the system is at fault.

Shall we blame the coaches and men in charge of our athletic programs? Some of the fault lies with them. On the other hand, it is often the pressure of townspeople, alumni groups and sports writers who put the coach "on the spot." We all like to win of course, but having pressure put on by outside groups does not help the situation. These groups for the most part are sincere in their criticisms, but they unknowingly tear down the harmony which should prevail in all educational departments. It would seem that coaches could do a great deal by endeavoring to make athletics an integral part of the educational scheme. If such spirit is developed, then criticism from outside sources would be minimized. Athletics are too important to become a doormat.

Bishop B. J. Sheil of Chicago recently said, "Man will never be complete until he has all of three parts, mental, physical and spiritual qualities in equal ratio in him." No one should doubt that statement, and it should be accepted by every athletic coach as a justification of our athletic programs.

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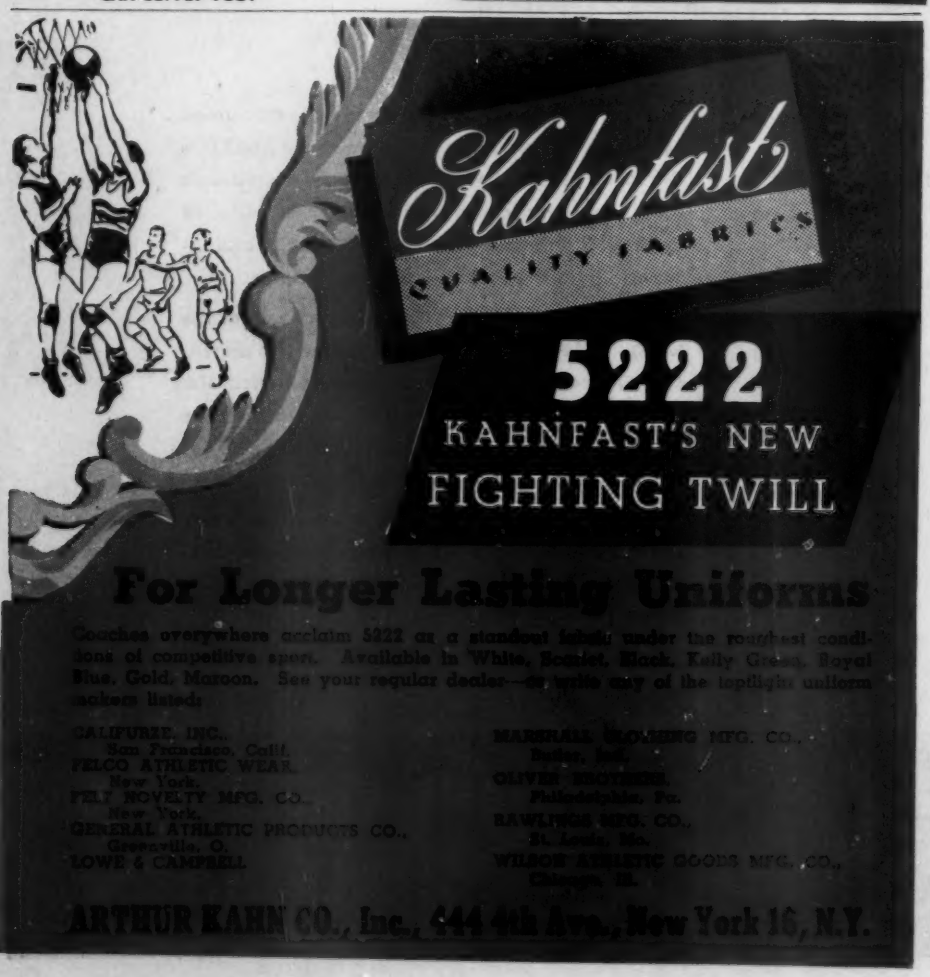
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Physical Fitness Tests on a Secondary School Level

(Continued from page 22)

ment if: (1) he fails to come to a complete squat; (2) he moves his hands from his head; (3) the legs are not straightened while he is in the air; (4) he rests or comes to a stop.

Pull-ups: Performance:

A. *Starting Position:* (1) Using the forward grip, the performer hangs by his hands from support; (2) if the support is not high enough, he should bend his knees so that his feet clear the floor; (3) the judge stands by to count, correct errors, and keep performer's body from swinging.

B. *Movement:* (1) Performer chins himself by raising his body so that the under part of his chin is brought to the level of the bar. His legs may be raised, if he does not "kick" or "hitch"; (2) performer then lowers himself to the hanging position, arms straight. He repeats the movement as many times as he can.

C. *Scoring:* (1) Each time the performer's chin is brought to the level of the top of the bar, he is given credit for a pull-up.

D. *Cautions:* Do not score the movement if: (1) the performer kicks his legs; (2) he rests or stops until finished; (3) his arms are not straight at the bottom of the pull-up; (4) he fails to raise his chin to the proper level.

Approximately eight hundred boys of the high school were given the tests during September and again during January. All of the boys in the military training corps and those taking ninth hour sports were not asked to take the tests.

A division was made for the purpose of classification by keeping the results made by the freshman-sophomore group and the junior-senior classes separated. Our freshman-sophomore boys take physical education on alternate days (three days one week and two days the next), while all junior-senior boys participate five days each week. It was interesting to watch the improvement made by the two groups in the interim between the September and January tests.

In the fall the freshman-sophomore group averaged 4.2 on pull-ups while the winter test showed an average of 4.3. The junior-senior classes averaged 5.3 on the same test in September with a 5.9 average in January. This made for the total an average of 4.7 chins in the fall compared to 5.1 chins in the winter. If we should compare our total average with the T-scores computed by the navy, we would find a T-score of 37, with a score of 50 as average. One of our senior boys completed nineteen chins. This was the largest num-

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ber of pull-ups made by any boy in the school.

The freshman-sophomore classes made an average of 14.2 push-ups in the fall and 16.3 in the winter; the junior-senior boys made an average of 18.1 and 20.1 during the same seasons. The total for the school showed an average of 16.1 push-ups in the fall compared with an average of 18.3 in the winter. Comparing these results with the navy T-scores, the average would show a score of 33 on the basis of 50 as an average T-score. The largest number of push-ups made by any one boy during the fall and winter was 50.

The average number of squat-thrusts scored by the freshman-sophomore group during the fall was 24.6 and that average increased to 29.1 during the winter tests. The junior-senior group increased their average from 28.1 to 33.2 during the same months. The combined average number of squat-thrusts was increased from 26.4 to 31.2 between the fall and winter testing period. This average would have shown a T-score of 56 if the school average were compared with the navy T-score. Fifty-one was the largest number of squat-thrusts made by any boy. This number proved to be a good score when we realize the performance of the test must be completed in one minute.

The freshman-sophomore group averaged 33.5 squat-jumps on the September test compared with 42.3 in the winter tests. During the same period of time, the junior-senior group increased their average from 38 to 50.3 squat-jumps. This made for an average of 35.8 compared to 46.3 squat-jumps for all the boys in school during the two testing periods. This average would have scored 61 using the navy T-scores as a basis for comparison. A score of 50 would have been the average. One hundred seventy-five squat-jumps was the largest number completed by a single boy.

The freshman-sophomore group completed 38.5 sit-ups, the junior-senior group 43.3, while the whole group made on an average of 40.9 during the fall testing period compared to 52 by the freshman-sophomore group, 57 by the junior-senior group, and 54.5 for all the boys taking the test during the winter months. Our fall T-score on sit-ups using the navy T-scores would have been 53 compared to a T-score of 62 on the winter tests. In each case, a score of 50 was considered average. The best score made by any one boy in school was 111 sit-ups.

After the tests had been completed in the winter, the average score for each test was taken and graded according to the T-scores used by the navy. These T-scores were added together and then divided by five showing a score of 50, which means the Evanston boys are found to be average compared with the boys in the navy who have taken the same tests.

The five tests, the chins or pull-ups, push-ups, squat-thrusts, squat-jumps, and the sit-ups, are used because, as a group, they correlate very high with the elements included in physical fitness, because they stimulate the class, because of ease of administration, and because they condition the class.

Fifty-two per cent of the freshman-sophomore group, 54 per cent of the junior-senior group, and 53 per cent of all the boys increased their score in chins from the fall to the winter testing period.

During the same period of time 78 per cent of the freshman-sophomore group, 85 per cent of the junior-senior group, and 80 per cent of the entire group increased their score in push-ups.

Eighty-six per cent of all those taking the squat-thrust test increased their scores while 83 per cent of the freshman-sophomore group and 91 per cent of the junior-senior group increased their scores on the same test.

From the squat-jump tests, taken during the fall and winter testing periods, it was found that 77 per cent of the freshman-sophomore group, 87 per cent of the junior-senior group, and 81 per cent of all the boys had increased their scores.

A gain of 81 per cent, 84 per cent and 82 per cent, respectively, was found among the freshman-sophomore, junior-senior and combined groups taking the set-up tests during the two testing periods.

After all the tests had been completed during the fall, T-scores were computed from the results. Each boy's five-year accumulative testing card was taken, and the corresponding T-score was recorded according to the score made on each test. These five scores were added and then divided by five to give the boy a fall physical fitness T-score average. The same norms were used after the winter testing period had been completed, and a winter physical fitness score was computed for each boy. The average physical fitness score for all the boys tested during the fall test was 49 plus, as compared to a score of 54 on the winter tests.

The highest physical fitness T-score average made by any one was 80 and the lowest 27. Twenty-four was the largest span of increase for an average T-score on the five tests between the two testing periods.

After the results of these tests have been carefully studied, a physical education program that will more readily meet the needs of our boys will be provided. It is hoped that, as a result of a good physical program, Evanston boys will not reach middle age, as someone has said, classified as 5B's—baldness, bridgework, bifocals, bay windows, and bunions.

The comparison of the results this year with those made during the first year of our program will be most interesting and will prove the value of an organized physical fitness program and definitely aid in the formulation of our program.

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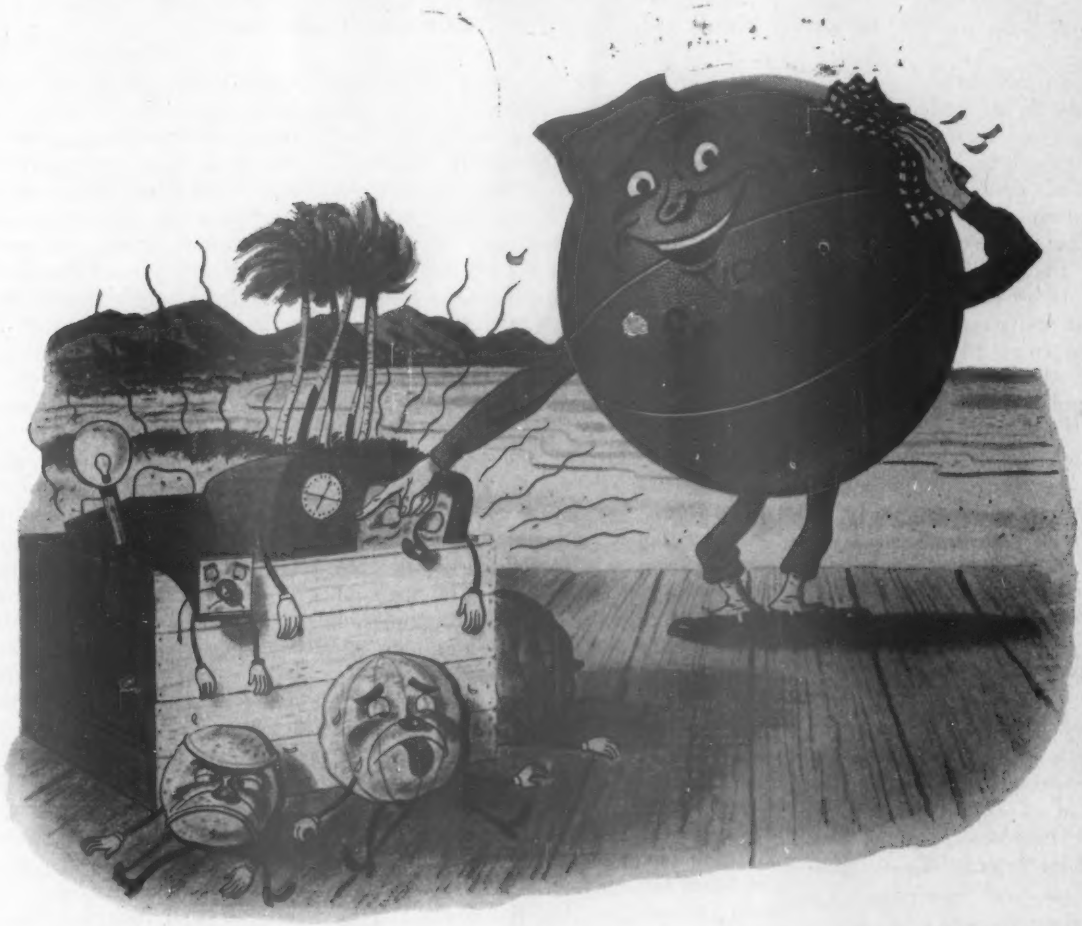

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Cross-Country Running in Ulster

By Robert Baker
Formerly, Member of University of California Track Team

ONE would hardly expect a country that has been undergoing the hardships and rigours of war for over four years to still maintain its sports programme. Yet Ulster* (particularly Belfast and environs), is doing that very thing—and making a splendid job of it too! Soccer, rugby, boxing, hurling, Gaelic football and cross-country running are very popular and receive a warm and cordial response from participants and spectators alike. Due to the growing interest and popularity of cross-country running in the United States, and, inasmuch as Belfast is one of the main hubs of interest of cross-country running in the British Isles, the sport of hill and dale was selected for this article.

Ireland's first cross-country championship was held in 1881, the individual winner being E. H. Nums, Dublin University.

The reader has probably wondered many times why the Irish people are so fond of this sport. A combination of factors are involved. But in the main, the popularity of this sport arises from the following: Cross-country races can be (and are) run in all types of weather; running trunks, tennis shoes, and a heavy sweater, plus a large expanse of open hilly countryside are the only equipment required; unlimited numbers of athletes can participate; it is invaluable as a conditioner for athletes desirous of preparing themselves for such stamina-demanding sports as boxing, wrestling, rowing, tennis, soccer, rugby, and middle and long distance running. Lastly, the sport itself has certain intrinsic and aesthetic qualities that appeal to the mental and emotional make-up of these people.

Practically all the cross-country running in Northern Ireland is done through and supported by running clubs, more generally called harrier clubs. However, many youths who are not members of any particular harrier club engage in cross-country running by accompanying "club members" on their practice runs along the countryside—coming along just for the joy and fun of a good outing.

In the vicinity of Belfast there are approximately twenty-five such clubs, the average active membership being about thirty. The range of ages of club runners varies from seventeen to thirty-two. Each club is self-supporting financially, the members paying small fees at each tri-weekly meeting. As most of the harrier members are working boys of limited means this has been found to be the simplest means of paying dues. Most of the club money is expended for the heating, lighting, renting of the club quarters and for entry fees. The harrier clubs are usually small, single-story, two-roomed buildings. Only a few have lockers and showers. In general, clothes are hung on wall hooks, or strewn over benches, and showers must be taken at the athlete's home, after first drying adequately and taking a light massage.

As to training methods, the methods employed here—although quite unique and simple—are highly successful. At no time is pressure brought to bear on any member—whether just a training run or a competitive race. The reason for this is quite obvious as the athletes are training and competing steadily from the middle of September to late in April—an almost incredible feat when one considers the arduous nature of this sport. However, the training program and schedule of competitive races are so well planned that the losses due to lack of interest or over training are nearly at an irreducible minimum.

Another factor of vital importance is the fact that each athlete has sufficient time to condition himself for the heavy going and keen competition that lies ahead. This is proven by the fact that although the athletes start conditioning themselves in September, actual competitive races do not start until early December.

In describing training methods used in Ulster it seems advisable to divide the topic into early season training and late season training and to describe them in that order. Early season training includes the period of training from late September to February. Late season training includes the period of training from February to late April.

During the early season training, workouts are limited to three per week. Two of these are night workouts held on Tuesday and Thursday evenings during blackouts, and the third a long steady run on Saturday afternoon over the green-cloaked hills. In addition to these workouts it is common practice for most of the athletes to take a two- to three-hour hike over the countryside on Sunday, weather permitting of course.

The two blackout workouts consist of a brisk steady three- to four-mile jog along the paved streets. The jog is speeded up as the season progresses and the condition of the runners improves. Calisthenics and a light massage conclude the workout. In jogging the three to four miles, runners go out in groups of four to ten, running together the entire distance. Due to the irregular hours of work necessitated by the war, it is almost impossible to get many club members together to form a large pack. Instead, as soon as enough runners arrive small groups are formed and sent out on their runs. No time is taken on these runs and the group tries to keep together as much as possible. If one should feel like extending himself considerably, he has a perfect right to do so and no fellow member will make an issue of it. However, most of the boys are content to save their best efforts for competitive races.

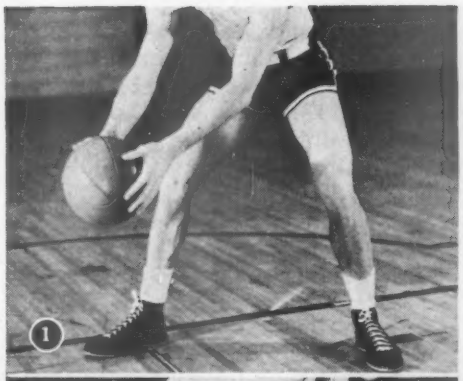
Saturday's workout consists of a seven- to eight-mile run over the hills and through the country. This workout is anxiously awaited by all members, for herein lies the real sport and thrill of cross-country running. Weather is no barrier; members run regardless of wind, rain, ice, or snow—or any combination of these. The course is quite tough and the footing very heavy and slippery in spots. Most of the distance is run in three or four inches of muddy sod or water-soaked grass. In many places the turf is so soft and muddy that one sinks up to the calves in the wet black slush—and in a few places—actually up to one's knees! The Irishmen enjoy this and laugh heartily at the other's peril.

During the first month of training it is almost impossible to run the entire course without stopping, and as a means of getting one's breath and at the same time allowing the stragglers a chance to catch up with the pack, frequent intervals of walking are taken.

As the season progresses and the dates of the big races draw near, inter-club runs are substituted for the Saturday afternoon practice run over the country. As many as six or eight clubs compete. No score is taken nor is any effort made to make this a competitive race. It is for training and conditioning only. In order, however, that all might have a good taxing run, runners are placed in packs according to their respective abilities and condition. The packs are graded "fast", "intermediate", or "slow", depending on the relative condition and ability of the runners. Each pack has a pace-setter and a "whip",—the function of the latter being to try to keep the pack together to prevent stragglers.

As regards late season training, the same general plan of three workouts per week, as in early season training, is followed with a few minor changes. The Tuesday evening workout is changed somewhat, the change depending on the condition of the athlete. If the harrier in question has

*The counties of Northern Ireland collectively are referred to as Ulster.



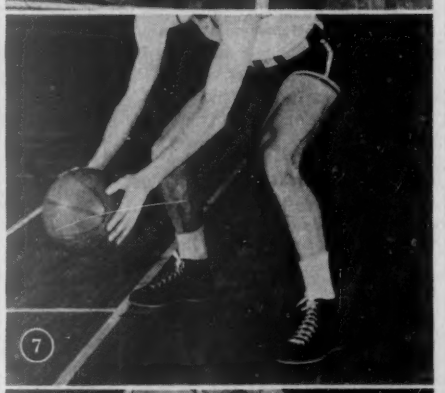


Illustration 1 shows footwork on the pivot line. The player is faking the ball to a teammate and, at the same time, dropping the left foot back as indicated. This action gives the offensive man position on the defensive man, especially if the defense is a shifting man-for-man.

Illustration 2 shows the second step. The player has now completed the pivot and is starting to dribble in for a right-handed shot. The ball is protected by the body which is very important in every situation of this kind. The fake and steps must be done very quickly.

Illustration 3—This is the same action as shown in Illustration 1, except, in this picture, the player has dropped his right foot back and is attempting to gain position on the defensive man, so that he can dribble in for a left-handed shot.

Illustration 4—The completed pivot and the start of the dribble. Again note that the ball is protected by the body. These four pictures show footwork of the offensive player going either to his right or left. All action must be very fast.

Illustration 5—The first step of the fake and dribble. The player is attempting to go by on the left side of the defensive player. After faking a shot or pass to pull the defensive player out of position, the long cross-over step is used as indicated in this picture. Again this action must be fast. This step is used to get position on the guard.

Illustration 6—The same as Illustration 5, except the player is to go around the guard's right side. Therefore, the long cross-over step with the right foot and the start of the dribble with the left hand. The long cross-over step is used to get position on a defensive man.

Illustration 7—Meeting a pass breaking out from the left corner. The pass has been made to the protected area, near the side line—the left foot is forward to protect the ball. The player has not only protected the ball with his body, but is also in good position to pass and cut or fake and dribble.

Illustration 8—This shows a player coming out of the right corner to meet a pass. In this case, the right foot is forward and the ball is again passed to the protected area near the side line. In both Illustrations 7 and 8 the player not only has protected the ball by this footwork, but is in good position to pass or fake and dribble.

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OTIS COFFEY, Pampa, Texas

good stamina, but lacks speed, a very hard run from two to two and a half miles is taken. If the reverse is true, then the runner is placed in a pack that will cover four to five miles at a good steady pace.

Thursday evening's workout is altered slightly too. If a race is to be held on Saturday then a moderate jog of two and a half miles is taken, or even a long walk may be substituted.

Saturday's workout is also altered. The pace over the seven miles of hills and fields is stepped up as the season progresses and the athletes are now able to traverse this rough, tough grind with only one or two short intervals of walking. From the beginning of March to the end of the season (late in April), a hard four- to five mile run on the pavement is substituted for the run through the country. The latter change in training is primarily to give the athletes the speed and strength to maintain a hard pace over a long distance.

Although the chief supporters of cross-country running in Ulster are the harrier clubs, it is through the Northern Ireland Amateur Athletic Association that the sanctioning and supervising of cross-country meets is brought about. From December till March, meets are held about twice a month. Seldom are meets held on consecutive Saturdays. The N.I.A.A.A. sanctions two types of meets, namely, junior and senior meets. A junior meet is open to only those runners or teams who failed to win or place second in any of the previous year junior races. Senior races are open to all amateur teams and runners, and are usually a handicap affair, each team receiving its handicap according to its standing in races the previous year. This classification of athletes is based solely on a team's showing and does not prohibit an individual winner whose team failed to finish in the first two places from competing in the junior races. And here it is possible to find many first-class performers competing in the junior races.

All cross-country races sanctioned by the N.I.A.A.A. are run on the lap system. A course is selected varying from a mile to a mile and a half in length.

By way of description, most of the competitive cross-country courses are laid out over very rough terrain. Such obstacles as barbed wire fences, stone walls, hedges, small streams, marshes, deep ditches and gulleys, ploughed turf, soggy wet grass, short steep hills, omnipresent mud and slush confront the runners. The selection of a suitable course is based primarily on its accessibility to tram and bus lines, and the proximity of dressing facilities.

As a general practice, school buildings are used as dressing quarters by the athletes and it is not uncommon to see sinewy muscled youths undressing near world atlases, fish bowls, or barren blackboards. Occasionally harriers undress in army barracks, townhalls, or technical trade schools. Only in rare instances are showers available, thus the athletes endeavour to scrub the heavy turf from their bodies by washing under water taps or by dipping their cupped hands into barrels and tubs filled with cold water. Later a more thorough cleansing is taken at the athlete's home.

Officiating at the meets is of the highest quality: the most important officials are the starter, clerk, lap-scorers, judges of the finish, and scorer.

It was interesting to note the splendid method employed here in preventing any mix-up in checking the runners as they finished. As the runners finish, they are required to pass through a finishing pen. The latter is merely an aisle about a yard wide and about four feet high formed by driving slender wooden stakes into the ground and stringing rope from one stake to another. This pen extends about twenty yards in front of the finish and about five yards beyond the finish. As each runner passes the finishing line, he is given a card bearing his exact finishing order. Thus, this pen prevents runners from walking away without receiving their finishing number cards, and, in addition, when finishers are closely grouped as in many cases where large numbers are competing, it is impossible for finishers, once inside the finishing pen, to become interchanged.

Despite war conditions, Ulster harrier clubs have responded loyally in supporting cross-country running here. The proportion of clubs competing in meets is quite high. One finds as many as fifteen to twenty clubs entering teams in the meets here. Each club is allowed to enter a team consisting of not less than six or more than twelve runners. In addition; each team is allowed three reserves. Thus the number of competitors usually reaches one hundred or more. In peace time, the number was nearly doubled.

In the scoring of cross-country meets in Ulster, only the first six men to finish on each team are allowed to count in the final scoring. Each man scores as many points as his finishing order indicates. The points of the first six finishes on each team are totalled and the team with the lowest total is declared the winner, the team scoring second lowest total score is second, and so on.

Prizes are awarded to the first six finishers on each of the first two teams. The individual winner (first runner to finish regardless of the team's placing) receives a trophy. If the latter happens to be on either of the first two teams to finish, he also receives an award for being a member of a placing team. However, in championship races, should the individual winner be a member of the winning team, he can be awarded only one medal. Because of the war-time need for all metal, award winners are now given paper certificates in place of medals or trophies. These are redeemable for prizes after the war.

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Review of Recent Literature Pertaining to Conditioning and Training

By W. W. Tuttle
University of Iowa

HEREWITH is presented a review of several papers which deal with problems of interest to coaches and trainers. Some of the original papers are readily obtainable and some of them are not. In the case of those who have special interest in reading the complete reports, we will be glad to loan the material as a free service to coaches and trainers.

Jokl, E.: High Jump Technique of the Central African Watussis, J. Physical Ed. and School Hygiene, 33: (Nov. 1941) 1-7. This paper is a discussion of the seemingly mysterious ability of the Watussis as high jumpers. These people represent the tallest human community in the world, measurements of 6 feet 9 inches to seven feet, being by no means found rarely among them. They are the only human group which really deserves the name of "race of champions." Hundreds of them can jump six feet, and performances of six feet eight inches, measured from the bottom level of the take-off board have been seen repeatedly. The best have been said by reliable observers to reach seven feet two inches.

Cinemetrographic films of Watussi high jumpers were subjected to kinesiological analysis. A number of the outstanding features revealed by the study were as follows:

1. An interesting and characteristic jumping technique, best described as a combination between the Western roll and the extension jump.
2. Rapid and smooth transformation of the horizontal forward impulse and the jumper's center of gravity during the run-up into the vertical ascent, after the take-off.
3. An extraordinary exactness in "timing." The highest point of the curve of the jumper's center of gravity is reached precisely at the moment when the jumper crosses the bar.
4. The ascent takes place exactly in a vertical plane that stands at an angle of 90 degrees to the jumping bar.
5. The jumper attains perfect utilization of his take-off effort by rotating his longitudinal body axis from the vertical position, during the take-off, into a horizontal position, while crossing the bar.

The Watussi jumpers initiate perfectly an involved movement of a grade of difficulty thought to be attainable only through intellectually guided training. The explanation suggested for this unusual attainment is that these people as a group have very great functional plasticity, not only of the highest motor control centers, but also with regard to inherent movement patterns.

***READERS** of this publication who are interested in going through the complete reports, should communicate with Dr. W. W. Tuttle, University of Iowa, Iowa City, Iowa. — (Editor's Note)*

Jokl, E., Cluver, H., Goldvolk, C. and DeJough, F. W.: Training and Efficiency. An Experiment in Physical Economic Rehabilitation, 1941, 188 pages, South African Institute of Medical Research, Johannesburg, South Africa. The results of a physical training program on thirty-two special service battalion recruits are reported. Although the group was free from infectious diseases and other gross physical disabilities, they were malnourished and undisciplined. During the course of the physical training, the subjects experienced for the first time in their lives a regime of strict discipline. They received a well-balanced diet and followed a carefully elaborated time-table. The background of this group was ideal for studying the effects of a training program on physical efficiency. During the course of a six months training period, studies were made of changes in anthropometric measures, respiratory changes, circulation of the blood, and athletic performance. Data were collected before the training began and at monthly intervals. The data were treated statistically and the results of each phase of the experiment summarized. The experiment is a true picture of what one may expect from a well-conducted physical training program.

Karpovich, Peter V. and Millman, Nathan: Vitamin B_1 and Endurance, New England Journ. Med., 226: (May 1942) 881-882. It is pointed out in this experiment that numerous claims have been made relative to the beneficial effects of charging diets with vitamins, which can be explained on the basis of poorly controlled experiments rather than any proven effect of the vitamins. Endurance was measured by the arm holding test which consists of seeing how long the arm can be held horizontally. The experiment was controlled, as far as the vitamins were concerned by giving some of the subjects vitamins and some of them placebo tablets. The subjects were divided into three groups. Group 1 was told to hold their arms outstretched as long as possible. The holding time ranged fom 6 to 108 minutes. The second group was told about the value claimed as the result of taking B_1 and their holding time varied from 8 to 135 minutes. The third group was made aware of the remarkable claims made, and in addition were given an especially emphatic "pep" talk. Their holding time ranged from 9 to 260 minutes. The authors conclude that either all subjects were already supplied with Vitamin B_1 or that arm holding is not a good test for proving the point. At any rate, the experiment, although it proved nothing relative to B_1 and endurance, points out the necessity of properly controlled experiments. It also suggests that many results which seem to be due to some factor in the diet, can be accounted for on purely psychic grounds.

Karpovich, Peter V., and Millman, Nathan: Athletes as Blood Donors, Research Qr., 13: (May 1942) 166-168. The question of permitting athletes in competition to serve as blood donors was investigated experimentally. The conclusions reached were that the loss of approximately one pint of blood affects athletic performance unfavorably, and that varsity athletes should be discouraged from "donating" blood, except in a dire emergency. The experiment shows that in exercises of endurance, capacity to do work is decreased for as long as three weeks after the loss of 500 cc. of blood, the amount usually given to blood banks.

Johnson, R. E., Brouha, L. and Darling, R. C.: A Test of Physical Fitness for

Strenuous Exercise, Rev. Canad. de biol., 1: (June 1942) 491-503. The authors describe a simple test of fitness for strenuous exercise which is useful for picking out the best, the worst, and the average in groups of healthy normal men. The test has also proven reliable for following variations in the physical condition of a given individual at intervals. The index of fitness for strenuous work is given as follows:

Duration of a standard exhaustive exercise in secs. x 100

2 x sum of pulses from 1-1½ mins., 2-2½ mins., 4-4½ mins. in recovery

The index is defined so that the scores are expressed as whole numbers, and a line chart for calculating fitness is included.

Keys, Ancel: Physical Performance in Relation to Diet, Federation Proceedings, Published by the Federation of American Societies for Experimental Biology, 2: (Sept. 1943) 164-187, Boston. In this article Dr. Keys has summarized and evaluated a large amount of the experimental results dealing with the effects of diet and diet supplements on capacity to do work. The topics considered are the fuels of muscular work, frequency of meals, sugars, proteins, vitamins, acidosis and alkalosis, phosphates, other minerals, creatine, glycene and gelatin, alcohol, miscellaneous substances and military rations.

In general, it is concluded that supplementing the diet with concentrates, provided the diet is adequate, does not alter the capacity to do work.

Roth, Grace M., McDonald, John B. and Sheard, Charles: The effect of Smoking Cigarettes and the Intervenous Administration of Nicotine on the Electrocardiogram, Basal Metabolic Rate, Cutaneous Temperature, Blood Pressure and Pulse Rate of Normal Persons, J.A.M.A., 125: (July 15, 1944) 761-767. The authors recognize the fact that there is lack of agreement among investigators as to the effect of tobacco smoking on body function. It is suggested that smoking tobacco is essentially a means of administering nicotine, since the intervenous injection of the drug produces similar results:

The results of smoking two standard cigarettes were as follows:

1. There was a decrease in the cutaneous temperature of the extremities.
2. There was an increase in basal metabolic rate.
3. The electrocardiogram was changed consistently.
4. There was an increase in pulse rate.
5. There was an increase in blood pressure.

It was observed that all the functional changes became normal five to fifteen minutes after smoking two standard cigarettes except the peripheral temperature changes which lasted from half an hour to an hour, and in some cases much longer. Since the decrease in peripheral temperature is caused by vascular constriction, the authors conclude that smoking standard cigarettes should be avoided in the presence of peripheral vascular disease. It is also suggested that "the habit of giving an injured soldier a cigarette is not advisable if arterial injury has occurred, as segmental spasm of the artery is common in such trauma and the vasoconstriction in a person sensitive to tobacco may cause irreparable damage."

Gallagher, J. Roswell and Brouha, Lucien: Physical Fitness, Its Evaluation and Significance, J.A.M.A., 125: (July 22, 1944) 834-838. This article points out the futility of considering physical fitness as consisting of a single component. For purposes of a more adequate consideration of the problem, physical fitness is broken down into (1) static fitness, (2) dynamic fitness and (3) motor skills fitness. Static fitness is confined to the soundness of the organs of the body. Dynamic fitness has to do with the efficiency of the body in doing strenuous work, and motor skills fitness is concerned with muscle co-ordination and strength.

A discussion of the approach to the measurement of the various types of fitness is considered.

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A Basketball Game Somewhere in France

By Joseph Hartley
Formerly Basketball Coach, Waterman, Illinois, High School

IT MAY be of interest to you and some of the folks back home to know that the boys in the United States Army can, in the midst of a campaign, carry on a little in athletics and competitive sports. This particular unit that I am with came down across Normandy and into Brittany with the big break through. When General Patton's Third Army turned eastward, we stopped off here to service units engaged in mopping up the Germans in Brittany.

The French are a liberated people now. Their joy in having their freedom again is indescribable, and in this city one of the first events in celebration of their returned freedom was a track and field sports festival. American troops were invited to enter in any of the events, and a French basketball team from this city challenged the Americans to a game, to be played as a grand finale to the afternoon of sports events. This particular French team claims the championship of Brittany, and to have advanced to the quarter-finals of the last all-French National Tournament.

Sergeant W. F. Blackledge, a former high school basketball coach from Laurel, Mississippi, and I were asked to act as co-coaches and to do what we could toward getting an American team together from this unit to play the French.

The game was played Sunday, September 24, 1944. The French team grabbed an early lead due chiefly, I think, to the difficulties that the American boys had interpreting the French official's decisions, and due to several minor differences in the French and American rules. At the half the Americans trailed by a score of 8 to 14. The second half, they made a better contest of it, but never quite overcame their difficulties. The final score was 22 to 24 favoring the French team. The American attack was led chiefly by Corporal Gus Chavalas, a lad just recently of Technical High of Oakland, California, and Private John W. Beyer, recently of the North Division High School, Milwaukee, Wisconsin. Those two boys were ably supported, however, by lads from various section of the United States, fourteen American boys playing in the game, and all gave a good account of themselves. The American boys played in the O. D. trousers and G. I. shoes. The French team was in proper basketball uniforms. A great many difficulties developed because only one person in our crowd knew any French, and his vocabulary was limited. Our boys had to find out the differences in French and American rules by experience and by signs. The French basketball is more like a large soccer football than like a basketball as we know it. This difficulty was partially overcome for our boys by using the French ball the first half and the American ball the second half of the game. It developed during the game that French rules differ from ours in several minor technicalities. The officials do not handle the ball when a team is awarded the ball out-of-bounds in their own front court. After each field goal and free throw, the players must pass the ball to one of the officials who passes it back to the player under the opponent's basket before it can be put in play. There is no three-second restriction rule in the free-throw lane. The situations in which a team can return the ball to the back court, once it is advanced to the front court, differs from our rules. The officials do not handle the ball when a player is awarded a free throw. On jump balls when the officials throw the ball up, they gave it a mighty heave into the sky, and the players tipped it as best they could as it came down. The French officials also allowed a great deal more body contact than is allowed in our American game, but the American boys soon adjusted themselves to that and were "dishing" it out on more than equal terms before the contest ended. The French civilian crowd was highly pleased because their team defeated our American boys, and we judged from their spontaneous reactions that we had not harmed French-American relationships any by losing the game. Of particular amusement to us was the fact that the French fans demonstrated a great deal of laughter and merriment when our boys went into a huddle to talk things over during a time out. Just why this was such an amusement to them, we never learned.

The American boys feel that, with a few more practice sessions added to their experience with French rules and officials, they can handily trim the Brittany champions. The fact that the boys had played little together was clearly evident throughout the game. Negotiations are now under way for a re-matching of the two teams.

As I watched these boys of ours playing basketball again under these conditions, the thought came to me, these American boys have been taken away from sports, but you can not take sports out of them. It is a part of them. Wherever our boys are to be found, they seem anxious to engage in competitive sports. This fine spirit reassures one that their present limitations in such activities are at least only temporary.

INDEX TO ADVERTISERS

All American Co. 39
American Hair & Felt Co. 38
Athletic Institute, The..... 24
Becton, Dickinson Co. 40
Bike Web Co. 5
Brooks Shoe Co. 36
Coca Cola Co. .....Cover 3
Coffey, Otis, Texas High School Coaching School Notes..... 44
Converse Rubber Co. 33
Dean, Everett 44
Denver Chemical Co. 47
Dolge, C. B., Co. 28
Esquire 4
Griswold & Nissen..... 36
Hood Rubber Co. 23
Hotel Sherman 45
Huntington Laboratories.....Cover 2
Ivory System.....Cover 4
Kahnfast Athletic Fabrics..... 38
MacGregor-Goldsmith, Inc. 35
Medart Mfg. Co., Fred..... 29
National Sports Equipment Co. .. 30
Petersen & Co. 36
Rawley Company, The..... 3
Rawlings Mfg. Co..... 37
Reach, Wright & Ditson..... 21
Riddell, Inc., John T. 43
Safe Play Goggle Co. 28
Seamless Rubber Co. 15
Softball Tournaments.....Cover 3
Spalding & Bros., A. G. 1
U. S. Rubber Co. 31
Voit Rubber Corp., W. J. 41
Wells, Clifford, Basketball..... 30
Wilson Sporting Goods Co. 25
Witchell-Sheill Co. 6

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